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ATLAS OF INDIA

A. M. TORINZO

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By A. M. LORENZO

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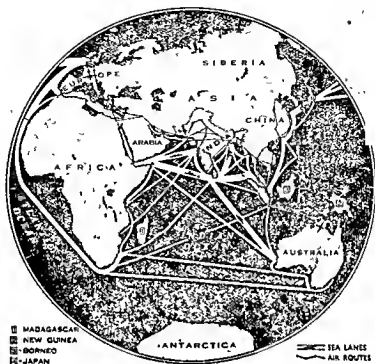
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THE COMMANDING POSITION OF INDIA IN THE EASTERN HEMISPHERE

INDIA occupies a highly favourable position for trade with southern Asia and the rest of the world. Situated almost at the centre of the Eastern Hemisphere, and at the head of the Indian Ocean, it commands the sea routes for trade between the West and the Far East.

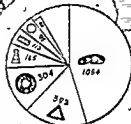
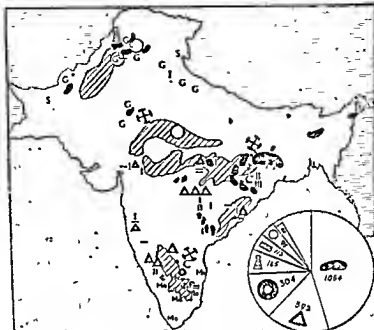
1. ENVIRONMENTAL SETTING

INDIA is the central and largest of the three irregular peninsulas of Southern Asia. One of the greatest of Greek geographers, Strabo, defined the shape of India as rhomboidal rather than triangular, with an acute apex pointing southward into the Indian Ocean. India is almost as long as it is broad, stretching from the hottest regions of the Equator to far within the Temperate Zone. It covers an area of 1,623,015 square miles. Its greatest length from north to south is about 2,000 miles, and its breadth from west to east is about 2,200 miles. Its coast-line is 4,000 miles in length, and is washed by the two embracing arms of the Indian Ocean—the Arabian Sea and the Bay of Bengal. Its land-frontiers adjoin those of Iran, Afghanistan, China and Burma, and stretch well over 5,000 miles. Roughly speaking, India is thirteen times as large as the British Isles, but only half the size of the U.S.A., or five-sixths the size of Europe. Although it covers only 3·4 per cent of the land surface of the globe, it contains one-fifth of the entire human race, and one-fourth of the world's total bovine population.

It is situated entirely to the north of the Equator between latitudes 8° and 37° N. and longitudes 61° and 97° E. Although the country is roughly bisected by the Tropic of Cancer—the northern half lying in the Temperate Zone and the southern half in the Torrid Zone—India is essentially a tropical region. It is the most typical of the monsoon countries, and the monsoon climate has a characteristic influence on the lives of the Indian people.

India is a geographical entity, due to its separation from the rest of the continent of Asia by the lofty barriers of the Himalayas. In point of size and individuality, though it ranks just below a continent, its geographical divergences approximate to those of several continents. It is isolated enough to keep its historical processes detached for long periods from those of the bordering countries and to give a characteristic stamp to the life and habits of its peoples. In spite of sharp regional differences, India presents a picture of cultural unity in the midst of physical diversity.

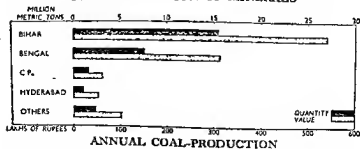
A land of promise, where nature has showered her gifts with lavish hand, India is the abode of races who differ from one another in physical characteristics, language and culture more widely than do the peoples of Europe. The abundance and variety of natural resources enable the country to support a population of 388·9 million people and 167·7 million head of cattle, in addition to 88 million head of other livestock and 191 million poultry. Although primarily a producer of foodstuffs and raw materials, India has also entered the front rank amongst the industrial countries of the world.



Petroleum . . .		Gold . . .		Mica . . .	
Coal . . .		Copper . . .	C	Sulphur . . .	S
Iron ore . . .	I	Magnesite . . .	Ma	Rocksalt . . .	○
Manganese . . .	Δ	Monazite . . .	Mo	Building materials	
Chromite . . .	¢	Gypsum . . .	G	Bauxite . . .	—

Figures indicate value in Rs. 1,00,000

THE DISTRIBUTION OF MINERALS



3. MINERAL RESOURCES

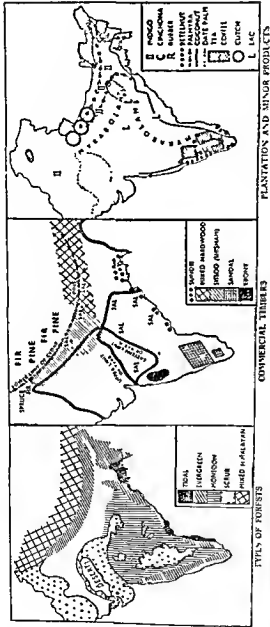
THE distribution of economic minerals in India is very localized. The principal coal-fields are in the Gondwana region (Bengal, Bihar, Orissa) in the remote north-eastern corner of the Peninsular Plateau. The oil-fields too, occurring as they do on the edge of great fold mountains, are sparsely distributed in Assam and the Punjab. Iron-ores, like the rest of metallic ores, are not found in the vicinity of coal-fields, and many rich iron deposits of Madras, Mysore and Hyderabad cannot be worked for want of metallurgical fuel. Other industrial minerals, such as borax, sulphur, magnesite, ilmenite or gypsum, are scattered far and wide. This scattered occurrence renders difficult the co-ordination of production and distribution, and is to a certain extent responsible for the lag in the industrial development of the country.

The total value of minerals, metals and ores produced in India in 1938 was Rs. 34.14 lakhs. The value of raw material minerals alone, i.e. excluding steel, pig iron, ferro-manganese, was Rs. 23.50 lakhs. With an output of 28.3 million tons of coal, valued at Rs. 10.64 lakhs, India ranked second in the British Empire and ninth amongst the coal-producing countries of the world. Other minerals produced were: iron-ore 2,743,675 tons, manganese 967,929 tons, copper 288,127 tons, gold 321,138 oz., chromite 44,149 tons, petroleum 87,082,371 gallons, salt 1,539,663 tons, mica 61,584 tons, saltpetre 72,412 tons, magnesite 25,611 tons, monazite 5,221 tons. India also produced 4,892 carats of sapphires and 1,729 carats of diamonds.

In 1938 there were 1,953 mines, employing 306,260 workers. Although 43 separate minerals are at present exploited, India as yet has neither won a place for itself amongst the world's leading mineral producers, nor does it enjoy a position of self-sufficiency in respect of all industrial minerals. India's position in the world's total production is shown by the following figures:

Coal	... 1.9 %	Manganese	... 15.3 %	Mica	... 43.00 %
Petroleum	... 0.1 %	Copper-ore	... 0.4 %	Rocksalt	... 0.06 %
Iron-ore	... 1.8 %	Gold	... 0.9 %	Gypsum	... 0.34 %

India is the main source of mica, ilmenite, and manganese, and is possessed of perhaps the world's largest reserve of high-grade iron-ore—3,600 million tons. Its resources in coal—50 to 60 thousand million tons—chromite, salt and saltpetre, gypsum, building material, earths and clays are fairly large, but it is very deficient in petroleum, tin, nickel, molybdenum, lead, zinc and silver, tungsten, antimony, bauxite and certain chemicals. The net annual imports of metals, minerals and precious stones in India exceed Rs. 10 crores in value, or 8 per cent of the total imports.

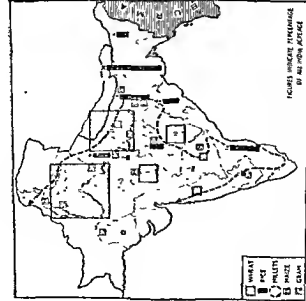


DISTRIBUTION OF FOREST AREA			DISTRIBUTION OF TIMBER AND FUEL WOOD						AREA UNDER PLANTATION CROPS					
BRITISH PROVINCES 79%	INDIAN STATES 21%	BOMBAY	CP AND BERAR	UP	PUNJAB	BENGAL	MAHARASHTRA	GUJARAT	OTHERS	COMMERCIAL PALMS 61%	TEA 21%	RUBBER 1%	COFFEE 1%	SHEEO 1%

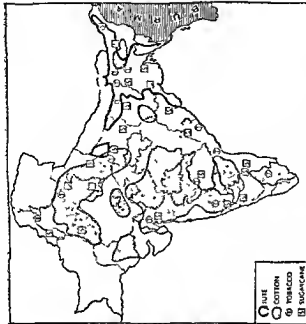
VEGETATIONALLY, the greater part of India must be considered as in the tropics, but because of greater climatic and physiographic differences there is found an infinite variety in the types of natural vegetation. We may thus find tropical, sub-tropical, temperate and Alpine zones at varying altitudes. Within each of these main vegetation zones are definite forest types: Wet, Moist and Dry, depending on soil, rainfall and local factors. The main types of forests, classified regionally, are (i) *Tidal*: representing the Wet Tropical type, occurring in swamps and submerged coastal plains, and producing mangrove vegetation, e.g. sundri, casuarina, and fuel-wood; (ii) *Evergreen*: the Moist Tropical type, thriving on plateau regions (1,000-3,000 ft) facing the monsoon currents. They occur in the Western Ghats, the eastern sub-Himalayas and Assam, and produce valuable hard-wood, e.g. teak, toon and bamboos; (iii) *Deciduous Monsoon*: distributed in sub-Himalayan regions and in the central and eastern Peninsula. They produce hard-wood, e.g. sal, teak, rosewood, ebony, shisham, sandal and mango; (iv) *Dry*: occurring in arid regions of the Punjab plain, Sind, Rajputana and Baluchistan, and producing babul and teak-wood; (v) *Mixed Himalayan*: producing vegetation of mixed deciduous and coniferous types, depending on elevation and rainfall, e.g. spruce, cedar, silver fir, pines, oaks, magnolias and laurels.

The forest area in British India is 68·1 million acres, or 11·5 per cent of the total area. 13 per cent of the

area of the States (19·1 million acres) is also forested. The forest wealth of India may be divided into three groups: *Major Products*—timber and fuel-wood; *Plantation Products*—tea, coffee, palms, rubber, cinchona and semul; and *Minor Products*—essential oils, dyeing and tanning substances, gums and resins, fibres and grasses, bamboos, lac, fruits and flowers, herbs and spices, bees-wax and honey. The average annual output of timber and fuel-wood is 295 million cubic feet. The estimated annual value of timber, fuel-wood, and woodware is now about Rs. 15,00 lakhs. The income from minor products averages Rs. 4,00 lakhs. The acreage under plantation crops is 3,250,000, and the value of plantation products is estimated at Rs. 35,00 lakhs. In 1939-40 India produced 451 million lb. of tea, 40 of coffee, 31 of rubber, 99 of lac, and 7,840 of coconuts (in shell), and the forest revenue amounted to Rs. 3,02 lakhs, yielding a surplus of Rs. 74 lakhs. India's position in the production of timber, lac, coconut, myrabolama and tea is favourable, there being always an exportable surplus, but there is deficiency of rubber, gums and resins, and deal-wood. Forests provide permanent employment for about 14 million workers and their dependants, and casual employment for a few more millions. The forest industries tend to reduce pressure on cultivation by absorbing a large floating population of rural labourers set free on account of the seasonal nature of agricultural operations.



FOOD CROPS



COMMERCIAL CROPS



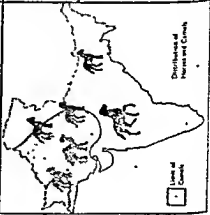
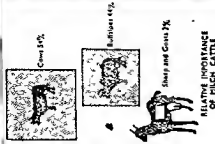
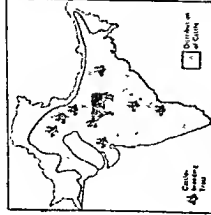
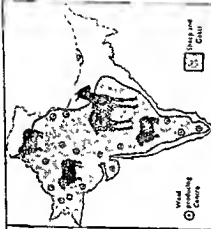
6. AGRICULTURAL RESOURCES

ON account of a wide range of physical and climatic conditions no homogeneous system of agriculture is found in India, the agricultural practices being adapted to regional peculiarities. *Wet Culture* is characteristic of new alluvium tracts which receive very heavy rainfall (over 80 inches), e.g. in the central and eastern sub-Himalayas and lower Bengal, and on the Malabar coast. The land is subject to multiple cropping and the principal crops are paddy and jute. *Humid Farming* is found in the alluvial and black-soil regions of moderate rainfall (80"-40"). e.g. in the central Ganges plain, Deccan and the Central Provinces—irrigation developing westward and wet cultivation eastward. Double cropping—often supplemented with a catch-crop, and—is usually practised. *Irrigation Farming* is developed in regions of older alluvium receiving inadequate or uncertain rainfall (40"-20"), e.g. in the upper Ganges plain, the Punjab plain, Sind and northern Madras. One or two crops may be raised. *Dry Farming*, characteristic of arid uplands which receive less than 20" of rainfall, e.g. Bombay, Sind, western U.P. and the Punjab, makes possible only one crop of wheat or millets in two or three years.

Agriculture in India is a seasonal industry. There are two principal cropping seasons: *kharif*, the summer rain cultivation, and *rabi*, the winter rain cultivation in *Zaid*, a catch-crop, is raised by artificial irrigation in humid regions. *Kharif* crops are sown after the first outbreak of the summer monsoon and harvested in

September or October. The principal crops are rice, maize, millets (*jowar*, *bajra*), pulses (*arhar*, *mung*, *masur*), oilseeds (castor, sesamum, groundnut), cotton, jute, hemp, sugarcane, tobacco, forage grasses and leafy vegetables. *Rabi* crops are sown in October and harvested in March or April, the chief of them being wheat, barley, gram, peas and beans, linseed, mustard, scrub-fodder, potatoes, root and tuber vegetables. *Zaid* crops are usually melons, water-melons, cucumbers, leafy and tuber vegetables.

The rural population is 87 per cent of the total population, out of which 66 per cent is directly engaged in cultivation. In 1939-40 the net area sown was 209,959,786 acres, of which 80.6 per cent was devoted to food crops and 19.4 per cent to commercial crops. India produced 55 million tons of food grains, 6.2 of oilseeds, 4.6 of sugarcane, in addition to 1,066 million lb of tobacco, 3,896 million lb, of jute and 1,964 million lb. of cotton. Though the production of commercial crops is in surplus, there is generally food shortage. According to the estimates of Dr Radhakamal Mukerjee, in a year of normal harvests there is food deficiency for 48 million persons, or 12 per cent of the population. In 1939-40 the net imports were 0.77 million tons of wheat and 1.62 million tons of rice, constituting the food requirements of about 41 million people. There is great scope for improvement in the crops and livestock of the country, and in course of time India should become self-sufficient in food supply.



ESTIMATED ANNUAL TOTAL CASH VALUE OF ANIMAL PRODUCTS AND SERVICES

	<i>Rs. Crores</i>
Milk products ...	300.00
Cattle labour in agriculture ...	400.00
Manure for land ...	270.00
Hides, skins, offals	40.00
Meat, fat, etc. ...	10.70
Export of cattle ...	0.05
Sale of bones, guts, casings, etc. ...	0.25

Total Rs. 10,21.00

7. ANIMAL RESOURCES

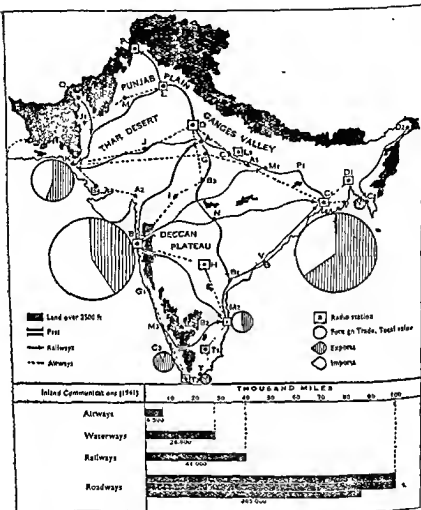
AMONG the most valuable potential natural resources of India must be reckoned her animal kingdom. Indian forests afford shelter to wild animals and birds in large numbers and in great variety. Bears and small fur-bearing animals, e.g. martens and weasels, are found in the Himalayas. The tiger is found in the eastern sub-Himalayan and plateau regions, and the leopard, wolf and hyena are very widely distributed. Elephants still roam about in the monsoon forests of the Nilgiri hills. Wild goats, deer, antelopes, and other herbivores move in herds over the grasslands. Ibex is found in Kashmir, the yak in the hills of southern India. The wild buffalo on the hills of northern Bengal rhinoceros frequents the swamps of northern Assam, and Assam, the huge python occurs largely in Assam, while crocodiles and cobras are widely distributed.

The domestic animals are buffaloes and oxen, horses and ponies, mules and donkeys, which are adapted to all climates. Sheep are reared mainly on the dry upland pastures unsuitable for cattle, while goats, which feed freely on scrub vegetation, are confined to arid regions. Fowls are domesticated in all climates, preferably the drier ones, and ducks abound in coastal plains and riverine tracts.

The total livestock in India is 255 million head. India has the largest bovine population in the world, i.e. 167 million out of the world's total of 690 million. India has many more cattle in proportion to its area and population than any other equal area of the earth's

surface. The number of cattle per 100 acres of area sown is 67 for India: ranging from 102 in Bengal to 90 in the U.P., 83 in Bihar, 73 in Madras, 58 in the Punjab, 51 in Sind, and 35 in Bombay. Twenty-five cattle per 100 acres of sown area are considered sufficient to meet the requirements of farming and rural transport in India, and the pressure of the cattle population on land and human food resources in almost all provinces is obvious in times of scarcity, such as famines and wars.

The total cash value of animal products and services in India is estimated at Rs. 1021 crores annually. The annual production of milk exceeds 800 million maunds, valued at Rs. 300 crores. Although India's output is four times that of Great Britain, its *per capita* consumption is less than one-fifth of that country's. Six million cattle, six million goats, and one million sheep are slaughtered every year for meat—yielding 620 million lb. of meat valued at Rs. 9 crores. About 130,000 tons of hides and skins (Rs. 9 crores), are produced annually, and the exports amount to over one-third of the world's total demand. The average annual output of raw wool is 40 million lb., one-third of which is exported. India has 15 per cent of the world's total poultry population, i.e. 191 million birds valued at Rs. 7.59 lakhs. There are 58 million laying birds producing 3,365 million eggs every year, of which more than 28 million are exported to neighbouring countries. Poultry farming as a subsidiary industry gives casual employment to 40 million workers.



COMMUNICATIONS AND COMMERCE

A - Agra	C1 - Calcutta	I - Indore	M3 - Mangalore
A1 - Allahabad	C2 - Chittagong	J - Jodhpur	N - Nagpur
A2 - Ahmedabad	C3 - Cochin	J1 - Jacobabad	P - Peshawar
B - Bombay	D - Delhi	K - Karachi	Q - Quetta
B1 - Bezwada	D1 - Dacca	L - Lahore	T - Tuticorin
B2 - Bangalore	D2 - Dibrugarh	LI - Lucknow	T1 - Trichinopoly
B3 - Bhopal	G - Gwalior	M - Multan	T2 - Trivandrum
B4 - Bhub	G1 - Goa	M3 - Moghalsarai	V - Vizagapatnam
C - Cawnpore	H - Hyderabad	M2 - Madras	

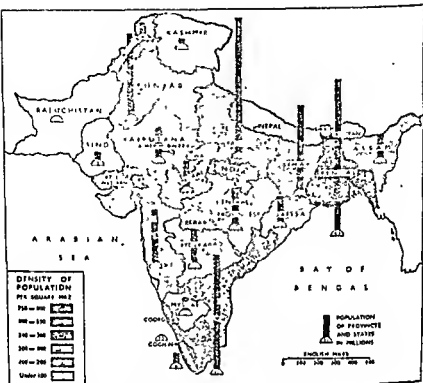
9. COMMUNICATIONS AND COMMERCE

GEOGRAPHICAL conditions largely control the nature and direction of the means of communication in India. Since communications follow the line of least resistance, their absence in the Himalayan region is natural and expected. The relief of Peninsular India offers poor facilities for the construction of roads and railways. The Indo-Gangetic plains have naturally developed the best system of communications.

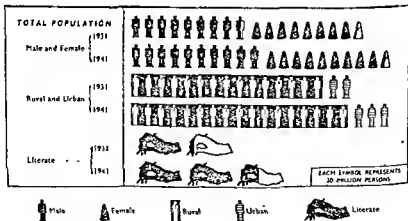
The four principal systems of transport—railways, roads, water- and air-ways—together aggregate 361,300 miles. There are only 3,800 miles of navigation canals, but irrigation canals and rivers are navigable for about 25,000 miles. Air transport has not developed beyond the experimental stage—there being about 6,500 miles of regular routes with an annual traffic of a million lb. of foreign mail. In 1941 the total railway route mileage was 41,032, which is less than one route mile to every 38 sq miles, or for 9,483 inhabitants. Of the total railway mileage more than 50 per cent is in the Indo-Gangetic plains. In 1941 Indian railways carried 89.2 million tons of goods and 5.5 million passengers and had a surplus of Rs. 8.29 crores, which in 1942 rose to Rs. 12 crores. The total mileage of roads in British India is 285,313, of which 64,070 are modern-surfaced: 186,166 miles of roads are motorable, and there are 174,077 motor vehicles. Roads are the principal feeders of railways and about 50 per cent of railway mileage is paralleled by metalled roads. More than three-fourths of the total road mileage lies in the Indo-Gangetic plains. Several million miles of inter-village *kutcha* roads in rural areas are not to be left out of consideration.

In 1941 there were also 103,600 miles of telegraph line and 648,000 miles of wire and cable; 33,216 straight line and extension telephone connexions; nine (A.I.R.) broadcasting stations with 15 transmitters, and 150,387 licensed wireless receivers. (There are now four radio stations in the States—two in Hydrabad, one each in Mysore and Travancore.)

India is mainly a producer of food-stuffs and raw materials, and this fact dominates the course of its trade. In 1941 the total value of India's foreign trade was Rs. 343 crores, the value of internal trade being Rs. 2500 crores. Although in volume of trade India ranks fifth in the world, the high population keeps its *per capita* trade figure almost at the bottom of the schedule. India exports raw jute and cotton, tea, oilseeds, hides and skins, lac and jute goods. It imports mainly manufactured goods, e.g. textiles, metals, machinery and millwork, vehicles, oils, paper and rubber. The principal commodities of internal trade are coal and coke, oilseeds, rice and wheat, salt, raw cotton, sugar, cotton piecegoods and livestock. In 1941 India's favourable balance of trade was Rs. 42.13 lakhs. The United Kingdom is the largest single customer for Indian exports, and supplies more than 50 per cent of the total Indian imports. The ports of Bombay (Rs. 150 crores annually), Calcutta (141), Karachi (62), Madras (34), Cochin (15), Chittagong (11) and Tuticorin (10), account for the bulk of the foreign and coastal trade.



DISTRIBUTION OF POPULATION, 1941



10. DISTRIBUTION OF POPULATION

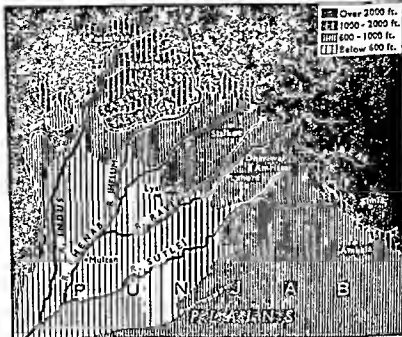
THE total population of India on 1 March 1941 was 388,997,955, representing an increase of 14·7 per cent over 1931, and of 39·1 per cent over 1891. 200·9 millions were male, and 187·9 female; 339·2 millions rural, and 49·6 urban. The urban population is 13 per cent of the total population (ranging from 2·7 in Assam to 26·0 per cent in Bombay) as compared with 80 per cent in England and 56·2 per cent in the U.S.A. Literates numbered 47 million. From the point of view of literacy, Travancore takes the highest place with 47·8 per cent; then follow Cochin (35·4 per cent), Delhi (25·7), Baroda (23), Bombay (19·5), Bengal (16·1) and Madras (13). Female literacy increased by 150 per cent in the decade 1931-41.

Of the total Indian population 171 million or 44 per cent is the working population, and the percentage of workers to the total working population is about sixty-six for agriculture, ten for industries, eight for trade and transport, three for public services and professions, and seven for domestic service.

The density per square mile of population in the major natural regions of India is controlled by climatic and physiographic factors which facilitate or hamper food production, migration and colonization. India, being mainly an agricultural country, shows a very low mean density of 195 persons per square mile as compared with highly industrialized England (684); the U.S.A., however, with an area nearly twice as great as India's, has a population of only 41 per square mile. The density per square mile in India shows large variations, e.g. 5 in Baluchistan (arid tableland) to 646 in Bengal (warm and moist, newer alluvial plains), 87 in Rajputana (desert region) to 814 in Cochin State (hot-wet coastal plains); 43 in Kashmir (Himalayan region) to 456 in the U.P. (older, humid alluvial plains). The highest density is noticeable in the Ganges and Indus valleys and coastal plains which receive adequate rainfall and have fertile soils, whereas it is the lowest in arid tablelands, desert and hill tracts.

Eighty-seven per cent of the total population of India resides in 655,257 rural settlements, half of which lie in the Ganges valley and Indus basin, and three-fifths of the total rural population is concentrated in about 600,000 villages having less than 1,000 inhabitants each. Urban places have increased from 2,480 in 1931 to 2,739 in 1941, and the percentage of the urban population to the total shows an increase of two per cent during the same period. There are 58 cities with more than 100,000 inhabitants each, six with over 400,000 and only two with over one million inhabitants, namely Calcutta 2,483,000 and Bombay 1,490,000.

The population of major communities in 1941 was 255·4 million Hindus, 91·7 Muslims, 25·1 Animists, 6·3 Christians, 5·7 Sikhs, 4·7 others. Hinduism predominate in Madras, Bihar, Orissa, C.I., the U.P., Rajputana and Bombay. Muslims populate the N.W.F. Province, Kashmir and Baluchistan, and form the majority in the Punjab, eastern Bengal and Sind. Christians are concentrated in Travancore, Cochin and Madras and scattered over the northern plains. Sikhs are localized in the Punjab, Jains in Rajputana, and Animists in Assam, Bihar and the central tableland.

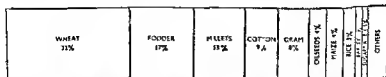


CONTOUR OF THE PUNJAB

100 MILES



THE PROPORTION OF CULTIVATED LAND



RELATIVE IMPORTANCE OF CROPS



SHARE OF THE PUNJAB IN INDIA'S TOTAL PRODUCTION

11. THE LAND OF THE FIVE RIVERS

FIVE rivers, the Jhelum, Chenab, Ravi, Beas and Sutlej, rising in the snow-clad Himalayas and flowing in a south-westerly direction, enclose a region called the Punjab (*punj* = five, *ab* = waters). This *Panchnad*, or the combined stream of five rivers, flows south-west, eventually to join the Indus river, which forms the western boundary of the region. The Punjab has an area of 135,880 sq. miles and a population of 33,923,000. The region as a whole enjoys a continental type of climate, i.e. extremes of heat and cold—the cyclonic rains rendering the cold weather bracing and invigorating.

The five natural regions of the Punjab are: (i) *The Himalayan Tract* (22,000 sq. miles), with scanty population living by meadow husbandry; (ii) *The North-west Tableland* (11,000 sq. miles), a precarious tract, thinly populated; (iii) *The Submontane Belt* of the north-east (8,000 sq. miles)—most fertile and thickly populated, its population of five millions being mostly agricultural; (iv) *The Eastern Humid Plain* (36,000 sq. miles), with a population of 11 millions, mainly agricultural; (v) *The Dry Western Plain* (59,000 sq. miles), with over seven million people, and the world's most remarkable system of canal irrigation.

The Punjab is essentially a region of peasant proprietors. Agriculture supports 65.5 per cent of the population. In 1941 the net area sown was 25.7 million acres, of which 17 million were irrigated. Here is produced 33 per cent of India's wheat, the other crops being millets, gram, maize, rice, barley, cotton, oilseeds, sugarcane and fodder. Wool, hides and skins are other staple products. Industrially not much advanced, the province has 927 factories—mainly for cotton, woollen and silk weaving, turpentine and rosin, plywood, stationery and sports goods.

Roughly one-half of the people are Muslims, three-eighths Hindus, and one-eighth Sikh. The Jats, about five million, stand high in the social scale; next come the Rajputs (1.5 million). The Gujars are an important agricultural and pastoral tribe. Multan is the natural collecting centre for the south-western regions; and Amritsar, Lyallpur, Ambala and Dhariwal are the seats of large-scale industries. Lahore (pop. 670,000), the largest town and the provincial capital, has one of the biggest railway workshops in India and is the centre of many industries.

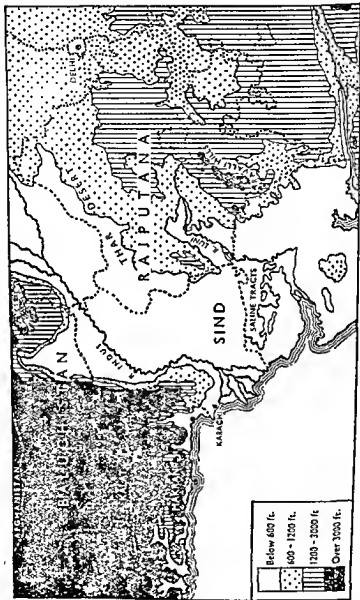
12. THE GIFT OF THE GANGES

THE VAST LEVEL TRACT watered and benefited by the two great river systems of northern India, the Ganges and the Brahmaputra, is formed by a process of alluviation, and is the work of many rivers and their tributaries. This region is therefore called 'the Gift of the Ganges'. The climate on the whole is of the Tropical Monsoon type—the hot and dry regions changing imperceptibly eastward into warm and wet lowlands. The average rainfall diminishes from 100" in the east to less than 20" in the western extremity, with an average decline of 15"-25" from the northern to the southern fringe. The vegetation varies from monsoon deciduous in the west to dense evergreen in the east.

The Ganges Plain is divided into three regions: (i) *Bhabar* (submontane belt): wet and riverine, maintaining a densely forested belt. The climate is damp and unhealthy, and wherever forests are cleared, paddy and sugarcane grow well. Fishing and lumbering are subsidiary occupations. (ii) *Bhangar*: the upland plains of older alluvium receiving moderate rainfall (60"-40") and enjoying a milder climate. Agriculture is the staple industry. The principal crops are rice, sugarcane, wheat,

gram, oilseeds, millets, cotton, tobacco. (iii) *Khadar*: the lowland plains of newer alluvium, confined to lower river valleys and deltas, receiving over 80" rainfall. Intensive cultivation supports a very dense population, the principal crops being paddy, jute, sugarcane, oilseeds and tobacco. Fishing is a prosperous industry.

The Ganges Plain ranks among the most productive and populated regions of the world. It comprises the provinces of Assam, Bengal, Bihar, Orissa and the U.P., aggregating an area of 364,841 sq. miles and a population of 177·4 million, which figures represent 23 per cent and 46 per cent of the respective figures for India. The area under crops is 87·8 million acres, 42 per cent of India's total cropped area. Large industrial and commercial centres are dotted throughout on the rivers' banks. Cawnpore (pop. 437,000), one of the largest cities on the Ganges, is a great railway centre, the leading manufacturing town, and the chief collecting and distributing centre for the agricultural products of the whole region. Calcutta (pop. 2,488,000) situated on the Hooghly river, 80 miles from the sea, is the largest port, and the main outlet for the products of the north and the east.



THE ARID REGIONS OF WESTERN INDIA

13. THE ARID WEST

THE WESTERN REGIONS of India are some of nature's most neglected and forsaken tracts. They include the uplands of Rajputana, the Thar Desert, the arid alluvial lowlands of Sind, and the arid Baluchistan tableland—with an aggregate area of 320,265 sq. miles and a population of 19,647,000. With more than 15 per cent of the area of the Indian Empire, they contain less than 5 per cent of the country's population.

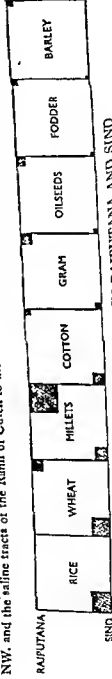
Over the greater part of this region rainfall is scanty, and frequently not a drop falls on the parched surface for more than a year. Vegetation is mainly scrub. The main occupation of the people is pasturing, with agriculture in irrigated tracts, the main crops being millets, wheat and cotton. Population is scattered, and the mean density ranges from 9 per sq. mile in Baluchistan to 87 in Rajputana.

Rajputana is an arid upland, intersected by the Aravalli Hills, with a vast expanse of sandy waste to the NW. and the saline tracts of the Rann of Cutch to the

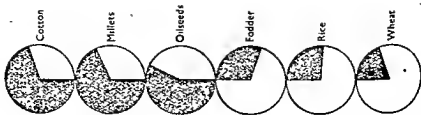
SW. More than half the population is engaged in agriculture and animal husbandry, and the principal products are millets and wool. The people are Rajputs (mostly landholders), Jats, Gujars and Bhils.

Sind would be a desert and the extension of canal undations of the Indus and the extension of canal irrigation. The net area sown is 4.9 million acres, of which 4.6 is irrigated; 59 per cent of the total working population is engaged in agriculture and 10 per cent in industry. Karachi (pop. 360,000) is the third largest port of India, and the main outlet for the products of the north-western regions.

Baluchistan is a region of rugged, barren, sunburnt mountains, with arid deserts and stony plains (1,000 to 3,000 ft). The climate is subject to extremes of heat and cold; rainfall nowhere exceeds ten inches. Pasturing, with precarious agriculture, supports a scanty population. The inhabitants are Afghans and Baluchs (agricultural) and Brahuis (nomads).



RELATIVE IMPORTANCE OF CROPS IN RAJPUTANA AND SIND



THE UNITED PROVINCES, THEIR REGIONS AND THEIR CONTRIBUTION

14. THE PENINSULAR REGIONS

Southern India is built up of old, hard (crystalline) rocks, and covered with thin soil, except where the rivers have cut channels for themselves and deposited silt along their banks, or where beds of black lava soil are found on the Deccan trap. The climate is evenly warm throughout the year, and the vegetation mainly deciduous. Though this region is larger than the plains of northern India it is less fertile, and hence less thickly populated.

The Deccan is a triangular tableland (1,000-3,000 ft) broken up by many ravines and forest-covered hills. Its seasonal and shallow rivers are mostly unnavigable. Valuable minerals, e.g. iron ore, manganese, chromite, gold, chemicals and clays, occur in large quantities. With a low rainfall and the soil inaccessible to irrigation, intensive cultivation is not possible. The hill-sides are bespotted with dry grasslands, and a large section of the population depends on pastoral pursuits ancillary to agriculture. Although millets constitute the chief food crops, the predominance of cash crops, mainly cotton and oilseeds for export, is the outstanding feature of the rural economy of this region. Hyderabad, Bangalore, Poona, Nagpur, Sholapur and Coimbatore are large industrial centres.

The West Coast Strip, composed of alluvial soil, is nowhere more than 40 miles broad. The rainfall

exceeds 100 inches, and the vegetation is luxuriant and mainly evergreen. Rice, coconuts, areca (betel) nuts, pepper, chillies and ginger are grown on lowlands; tea, coffee, cardamoms, rubber and cinchona on uplands; and timber on the hills. The west-coast ports, except Bombay, Marmagao and Cochin, are practically closed to traffic from mid-May to mid-September by the violence of the monsoon. Marmagao is a distributing port for the produce of the Bombay Deccan, Hyderabad and Mysore, while Cochin serves the whole south-western region, and its advantages as a passenger port are only just beginning to be realized. Bombay City (pop. 1,490,000), built on the lee side of an island, is a port open throughout the year, and accounts for one-third of India's total foreign trade.

The East Coast Strip is much longer and broader, but its rainfall, received during the winter from the receding north-east monsoon currents, is much less, (60"-40"). The rivers are longer and form large fertile deltas. Rice, sugarcane, groundnuts, tobacco and cotton are the main crops. Vizagapatam, one of the best ports along a coast of indifferent harbours, is the main outlet for the north-eastern tract of the plateau. Madras City (pop. 777,000), the largest port of the eastern peninsula, has an artificial harbour, and ranks fourth in volume of India's foreign trade.

INDIA is made up of (i) British territory, (ii) Indian States and (iii) Foreign possessions. British India, divided into eleven Governors' Provinces and five Chief Commissioners' Provinces, has an area of 910,507 sq. miles and a population of 295,808,722 persons. The Indian States, 584 in number, cover an area of 712,508 sq. miles and contain 93,189,233 people. The rulers of Indian States, while they owe treaty obligations to the British Crown, enjoy complete internal sovereignty. The States vary in size from princely realms like Hyderabad (82,698 sq. miles with a population of 14 millions and an annual revenue of Rs. 81 crores) to a tiny speck like the State of Bilbari with 27 persons and an annual revenue of Rs. 80 only. The five French possessions cover an area of 203 sq. miles and have a population of 323,295; and the three Portuguese possessions have an area of 1,537 sq. miles, and a population of 650,000.

Geographically, the States embrace the widest variety of relief and climate. Sharp regional contrasts are at once noticeable between Kashmir in the Himalayas and Hyderabad in the Deccan plateau; Travancore on the south-west coast and Bikaner in the Rajputana Desert; Kalat in the arid tableland of Baluchistan and Tripura in the wet lowlands of eastern Bengal. Most of the Indian States have no seaboard at all, but are surrounded by and interspersed within British territory, which includes almost the whole Indo-Gangetic plain and the coastal tracts.

Economically, the potential natural resources of the

States are inadequately developed. Their estimated total revenue is Rs. 45 crores as against Rs. 90 crores of the British Provinces. Though in recent years there has been improvement in agriculture, industries and transport, the rural economy of States is largely dependent on the markets and industries of British India.

The ratio of mouths to food (man:land) is still a fundamental consideration in determining the geopolitical boundaries within the Empire. In spite of excessive density of population in certain regions the net area sown is 330 million acres or 34 per cent of the area of India (which works out at 0.71 acre per head of population in provinces and 1.3 in States), and 139 million acres or about 26 per cent of the cultivable area is not yet brought under the plough. If the whole cultivable land (area sown, fallow and culturable waste) is cultivated there would be 1.2 and 1.9 acres per head respectively for provinces and States. The disparity of the man:land ratio, or of population and food supply, between British provinces and Indian States, becomes pointed from the fact that while the latter comprise more than 44 per cent of India's area, they contain less than 24 per cent of the total population. The percentage rate of increase of population between 1931 and 1941 was 15.2 for provinces and 14.3 for States, which indicates an ever-increasing pressure in British territories. Large-scale measures of land reclamation and planned agricultural colonization must eventually bring about an equilibrium of population and food-supply in the States and provinces of the Indian Empire.

No. 19

As. 6

THE PROBLEM OF POPULATION



**OXFORD PAMPHLETS
ON INDIAN AFFAIRS**



PROFESSOR Carr-Saunders has defined over-population as meaning that 'there are too many people in relation to the whole set of facts'. In this pamphlet the author considers the facts in India: a birth-rate that is probably the highest in the world; a death-rate that is almost certainly the highest; a pressure of population that cannot be relieved by emigration or further extension of cultivation; a deadlock between agriculture and industry—agriculture unable to develop until the surplus population has been absorbed by industry, industry unable to develop until the agriculturalists are prosperous enough to buy its manufactures. The author has no doubt that India is over-populated and, until the 'whole set of facts' can be changed—a task stupendous in its magnitude—he argues that every effort should be made to reduce the birth-rate and to seek quality rather than quantity.

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THE PROBLEM OF POPULATION

Dynamics of Population

THE population of India in the last decade, 1931-41, has increased by over 15 per cent, i.e. by nearly 35 million persons since 1931. That is a very large increase. Is it a matter for congratulation or the reverse? Are we, as a nation, weaker or stronger on this account? Views on this point differ widely. A stationary or even a slowly-growing population is regarded by some as a sign of stagnation, even of decay. France has for more than fifty years been struggling to increase the growth of her population, and Pétain in a memorable utterance after the fall of France attributed her collapse, among other things, to 'too few babies'—to the 'small family' system which had become the rule among her people. Most countries of Europe and the countries peopled by the races of European blood, like the U.S.A., Canada and Australia, have of late been deeply concerned over their declining birth-rates and the prospects of their population ceasing to grow. In several of these countries what has been called the struggle for population has been in progress, and Germany and Italy have striven not only to arrest the fall in their birth-rate but to make it as high as possible. From their point of view a country with a fast-growing population is a country with a future—a country whose people are bound to multiply and fill the world. If this point of view is sound, India is obviously doing better than she knows. She may be poor and weak, but has in her the dynamic of the future, the vitality which will eventually carry her forward and give her the urge and strength to fulfil her destiny.

The above view seems to be singularly unsuited to the case of a country like India. But it is possible to hold that,

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viewed in its historical perspective, the growth of her population is the index of her inner strength and will in the fullness of time make the solution of her problems by territorial expansion a matter of necessity. On the other hand the growth of population has for long been regarded as the root cause of misery, disease and death; and in India the abject poverty of her people and their inability to rise above the sub-human level of existence are attributed to it. It has been urged that if India has, in spite of what the British have done for her, lagged behind the rest of the world in almost every respect, it is because her people are reckless in the matter of procreation and take no heed of the future. Whatever the political future of India and the extent of power it gives her over her own affairs, she will not be able to solve the problems of poverty, disease and death as long as her people let the natural impulses have free play and children are born without any rational forethought. No change of political status or economic and social structure will, according to this view, save our people from famines, epidemics and chronic poverty unless the growth of population is checked and regulated according to a careful estimate of the population that this country can support in health and reasonable comfort.

Political Freedom and Population

The latter view, i.e. the view that over-population is *the* cause of poverty, was very commonly held in the West up to the second decade of this century, but now is *only* of historical interest owing to what is generally called the disastrous decline of the birth-rate and a sounder understanding of the question. The former view, according to which the growth of population is an index of the dynamic energy of a people, is at present the creed of militant

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nationalism in Germany, Italy and Japan but it is also an important factor in shaping the apprehension very widely felt regarding the future of their population by a large number of other Western countries. The view that the decline in the birth-rate is 'a symptom of the disease of the will, the decay of faith, the denial of life' cannot be held in India without a reckless disregard of facts, as in spite of the high birth-rate maintained over a very long period our people are suffering from just those evils which are attributed by the advocates of this view to the decline of the birth-rate. But the distressing poverty of our people has been accounted for by the rate at which the population has been increasing; and though this view is rejected by nationalist public opinion as an apology for British rule in India, there is growing appreciation of the importance of the population factor in determining the well-being of a nation and recognition of the need for giving it its due place in framing the national policies of the future. The situation is so baffling and the practical necessity for finding an adequate solution for our political problem so urgent that the more fundamental problems of our national life—and the population problem is a fundamental problem of our national life—get crowded out of the public mind and receive hardly any attention. But if the view that our people will soon be in a position to make their own future and take their place in the community of free nations is not a delusion we have to make a serious effort to outgrow our lack of interest in our population problem and understand its essentials.

The population problem in India, as elsewhere, is not merely a quantitative one. It is not merely a problem of numbers. The qualitative aspect of the problem, the problem of making the people of a country healthy, strong, creative, purposeful, full of hope, faith and courage for action

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on a grand scale is, as a matter of fact, far more important, and the quantitative aspect is relevant only because of its bearing on the qualitative aspect. India is a country of death and poverty-ridden, derelict people. Anyone who suggests restriction of numbers as the panacea for our economic ills betrays an ignorance of the real nature of the problem. The population problem of the country is essentially a part of the problem of remaking the nation and its solution will have to be undertaken as part of an all-round plan for the country. This cannot be done without the complete economic and political emancipation of the people. We have to take a realistic view of the future and regard a continued struggle for political freedom as a post-war task. There is, however, lack of unity and unifying purpose in the country and the absence of a well-organized party of action with clearly defined social objectives. We must, therefore, discard the view that once India is politically free our population problem, any more than other fundamental problems of national life, will solve itself. This view is based on the facile assumption that once we are politically free, there will be no need to worry about the basic needs of India for we shall have the power to develop our enormous resources and provide for our rapidly growing population. The inhibiting effects of our political subjection is a fundamental difficulty; but even if the fundamental difficulty can be overcome, there are other difficulties which are no less fundamental and which we shall come up against squarely for the first time.

Need for Rise in the Standard of Living

The lack of power and a clearly defined objective as to what it is to be used for are serious handicaps. But even if they were not there, the stupendousness of the task of raising

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one-fifth of the human race to a level worthy of a civilized nation should in itself be a good corrective for over-optimistic anticipation. We know that our people are incredibly poor and we have the testimony of everyday experience that they have been hardened into accepting appalling loss of life as a normal state of things. We also know that we have to give our people new faith and hope and make life worth living for them. Yet when a rise in the standard of living of the people is spoken of as an object to be striven for, a good many of us feel that we are introducing a vulgar and even degrading conception into our national life and setting up a 'materialistic' view of life which is alien to our history, genius and make-up. This view shows an intelligible but none the less a real confusion of ideas. Plain living and high thinking is a noble ideal. It has been practised in all countries throughout the ages by men with a mission in life and it is being practised to no small extent even in money-crazy countries like the U.S.A., Great Britain and Japan. That it is a special legacy of our own, which we have to treasure with particular care, is a national vanity engendered by the need to seek compensation for the abject conditions of our actual life. Never has the pattern of Indian national life been determined by this ideal to a greater extent than elsewhere; and if the indulgence in the acquisitive instinct is any index of unhealthy devotion to material pursuits of life, the behaviour of moneylenders, landlords, merchants and industrialists in India is as acquisitive as in any other country of the world. We are living in an age in which money-values have acquired ascendancy and created a disastrous world situation which cannot be redeemed without their replacement by values of an entirely different order—truly human values. This has to be done in India as much as in other countries. But men were not born to live in

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pigsties, to die in millions for want of means to satisfy the elementary needs of life; and unless our people are made to feel that the level at which they are living is utterly unworthy of human beings and has to become a thing of an almost forgotten past within a comparatively short time, we shall not be able to start that upsurge of life which is essential to bring about a change of the dimensions necessary in India. India needs badly a 'life through joy' movement in the best sense of the phrase—life of radiant health, social efficiency, and common endeavour with full zest for living. In this sense the standard of living of our people must be raised and all that has to be done to accomplish this result must be given a pre-eminent place in our national efforts.

A rise in the standard of living in India therefore does not mean a gospel of indiscriminate multiplication of wants or 'Fordism', as some call it, but a new way of life based upon a well-ordered material existence. It has to be realized that this end is at present beyond our national means. The level of production and the total output are so low that we cannot give to our people a national minimum—that is, the income necessary for maintaining them at a level which will place them above want, give them security and provide a margin for cultural development. The national income of India is known to be about the lowest in the world. It is not possible to discuss here the various estimates, which are all more or less speculative and of very little value for comparison as the data on which they are based are faulty and in certain important respects without any factual basis whatever. But we do not need elaborate statistical estimates to know that our people are living in a state of chronic want, without the physical and economic reserves to satisfy the daily needs of life, to say nothing about the emergencies which are unfortunately frequent.

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Ours is an insolvent economy, and even at the miserably low level at which we are living our expenditure exceeds our income and the dues against us have been and are increasing at a cumulative rate. This cannot go on. Break-down is inevitable in spite of our subhuman capacity for endurance. If the war does not come any nearer than it has, to reveal our incapacity to stand up to its strain, the break-down may be expected to take place under the stress of post-war events.

We must achieve a balanced national economy, and owing to the deficit being what it is, a very large, an almost colossal, increase in our national income is essential if we are to achieve this result. Our resources are undeveloped and we can tap them to good effect if we have the power and the will to do so. But if we keep on increasing our population, if we go on adding thirty to thirty-five lakhs of mouths every year to the existing size of our population, as we are doing at present, we shall be increasing our deficit continuously and progressively. We need all the increase in wealth that we can produce now and for a long time to come for raising the standard of living of our people, for feeding, clothing and housing them according to any decent standard—any standard which will be accepted as decent even by such an apostle of the simple life as Mahatma Gandhi—and we cannot afford to draw upon this increase for supporting an increase in our population. The point is simple, almost obvious. The gap between our means and needs is so large, and is so evident in the shrivelled bodies of the vast majority of our men, women and children, that it is the path of ordinary prudence and wisdom to add to our means but not to our needs. The 'deficit economy of India' has become one of the stock phrases of clever orators, journalists, social reformers, administrators and even economists. It is used

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to cover a lot of ignorance and is a deliberate evasion of the real issues. But the phrase is grim in its significance and represents a tragic reality of our national life.

High Cost of the Growth of Population

The above conclusion, of course, implies that the population of India is already excessive and therefore its rapid growth undesirable. This conclusion however is hotly contested. We have Mahatma Gandhi's well-known statement that 'by a proper land system, better agriculture and supplementary industry this country is capable of supporting twice as many people as are in it today', and though this view is less commonly shared than it used to be some time ago, there is still a fairly widespread feeling that the fear of over-population is an imaginary scare and, if our resources are developed to the utmost, we need have no anxiety regarding our ability to support a growing population. As a reply to the argument that the misery of our people is due to their numbers, the statement has a good deal of sense in it, and there is no doubt that the growth of our population has been unscrupulously used to explain away grave shortcomings of British rule in India. We are here concerned, however, not with the historical causes of India's poverty but its existence as an all-pervasive fact of our national life. The simple facts of the present situation have to be borne in mind in this connexion. The first is that ours is a death-ridden country. We might very well adopt the human skull as our national emblem, not to proclaim that we do not fear death or can carry it to other lands in pursuit of our national aims but to drive into the minds of our people the fact that death in its most gruesome forms is our common lot, 'the badge of all our tribe'. The tabulated figures of death-rates cannot present this fact in its grim reality. They in cold print

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cannot convey the horrors of reality but they sum up the real position very well. The death-rates of India and some important countries are given in the following table:

ANNUAL DEATH-RATE PER 1000 OF POPULATION

	1911-13	1921-5	1926-30	1931-5	1936	1937	1938	1939 ¹
India ...	29.9	26.0	23.5	24.3	22.6	22.4	24.3	21.1
Germany ...	14.8	13.3	11.2	11.8	11.8	11.7	11.6	12.3
France ...	19.7	17.2	15.7	16.8	15.3	15.0	15.4	15.3
United Kingdom ...	14.2	12.4	12.5	12.3	12.3	12.8	11.8	12.2
U.S.A. ...	14.1	11.8	10.9	11.8	11.6	11.3	10.6	10.6
Australia ...	10.9	9.5	9.0	9.3	9.5	9.4	9.6	9.9
Japan ...	20.7	21.7	17.8	19.3	17.6	19.1	17.6	17.6

This table gives comparative figures of India and six advanced countries of the world, but these figures are really not comparable. The standard of accuracy of the six countries is known to be high, but the vital statistics of India are notoriously defective and the recorded death-rates are far below the actual death-rates. It is difficult to state what the actual rates are, but according to a conservative estimate the records are in defect by about 33 per cent; if this basis is adopted, the average death-rate in India can be taken as about 33 per thousand, which is nearly three times as much as that of Germany, the U.S.A. and the United Kingdom, over double the rate of France and a little less than double that of Japan.

¹ These figures do not include war losses.

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The average rate, however, does not give an idea of the real disparity. The figures of total deaths convey a better idea of the excess of the loss of life in India. The average reported total deaths in British India per year from 1921 to 1938 were 6.40 millions, and in Europe excluding Russia the average was 5.28 millions, an excess of 1.12 millions; but as the total actual deaths in India must be more than 8 millions, an excess of about 3 millions every year can be assumed. That means there were about 54 million more deaths during this period in British India than in Europe, a total nearly equal to the population of the United Kingdom and Australia taken together. The annual average for the U.S.A. for the same period is 1.37 millions. As the population of the U.S.A. is one-third of the population of India, if the deaths in India were no more numerous than the deaths in the U.S.A., our total deaths every year would be 4.11 millions. The most significant point about Indian population is not its increase, but the high cost at which the increase is being maintained. If our net increase every year is about 35 lakhs, it is being secured at the cost of 40 lakhs more deaths than would occur in the U.S.A. That is a tremendous price to pay for the growth of population—a price which we have to count not only in the lives that are lost but in many more lives that are shattered by ill-health.

In Europe and America also there takes place a considerable preventible loss of life and the above figures therefore are not a measure of the lives that could be saved in this country; but if we remember that in India nearly one out of four babies dies before it is one year old (60 per cent of them in the first week after birth) and only 35 out of 100 children born attain the age of thirty (the corresponding figure for the United Kingdom being 73, for Sweden 76, for Germany 68, for France 68 and for Japan 65), we have a

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rough idea of how destructive this growth in population is for our people. It can be urged that this enormous loss of life is due to the fact that health services have not been developed in this country and that it could be prevented if we had a sufficient number of properly equipped hospitals, maternity homes and well-developed public health services of all kinds. In a sense this is true. The health services, like all social services, have been woefully neglected and so far as the countryside is concerned they are practically non-existent. Nine-tenths of our people are left to be cured by quacks or left to their own fate. Much more could be done to save life. But there are two essential pre-requisites for achieving this result. First is the expansion of our public revenues. The rich are very much undertaxed but 'poor people, poor state' is an ancient maxim of public finance and, granting that in a free India the state could go much farther in taxing the people than is practicable now, the poverty of the people cannot but set a very low limit to the enlargement of the state resources.

The other pre-requisite is, however, far more important. Our people die of many diseases, though the cause of 85 per cent of the deaths is unknown. The root cause of the overwhelming number of these deaths is poverty and the utter lack of vitality and resisting power due to it. Malaria, cholera, kala azar, beri-beri, smallpox, influenza and the dreaded tuberculosis, which is now increasing faster than ever in villages as well as towns, are all diseases for which remedial treatments are available; but no real cure is possible unless the general health and vitality of the people are such that the germs of disease find their way barred by the stubborn and almost insurmountable opposition of the defensive forces within the human organism. If we can substitute simple but healthy cottages for the miserable hovels in which

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most of our people live and provide for them simple but wholesome food containing a fair proportion of milk, vegetables and other ingredients necessary for health, we shall give them the means to fight disease without doctors or medical institutions. So long as these are out of their reach, as they certainly are at present, the medical services, whatever the extent of their development, will continue to fight a losing battle with not even a remote chance of victory. The fact that in India out of four babies one is doomed, while in countries like Holland and New Zealand twenty-nine out of thirty can expect to survive the ordeal of the first year after birth, is due to a number of causes, but if our expectant and nursing mothers could get sufficient milk for themselves and their babies, this single fact would go much farther than all other measures for improving our babies' chances of survival. The hand of death is upon us. If we save our people from one disease they will die of another until they have reserves within them to fight all death-dealing forces.

Population and the Indian Land System

In other words India's mortal disease is poverty. We have not enough to go round for all, and if a decent standard is adopted, not even enough for half our total population. Mahatma Gandhi's view is that twice as many men as there are at present in India can be supported by (among other measures) a proper land system, and he believes that the present political condition makes it impossible to carry out the necessary reform. The land system, as it exists today, was created by the British, who wished to have a class of people upon whom they could depend and who would be bound to them by ties of personal interest. This, and the convenience of collecting the land revenue, were the real

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reasons for creating what are called 'intermediate interests' between the state and the cultivators. This was the real motive for investing these interests with proprietary rights in Bengal and Bihar in 1793, and the same motive determined the policy in Madras in 1802, in the Central Provinces in 1818, in Oudh in 1859, in Sind soon after its occupation in 1842 and in the *jagirs* granted to 'grantees' in the Punjab in the new colony areas. For the British this was the line of least resistance. It was in accordance with the traditions of the feudal country from which they came, and to administer their vast estate the alien rulers needed the support of important local elements. If such elements did not exist it was a political necessity to create them. The British have succeeded admirably in their original object and have brought into being a conservative class, who, though growing progressively poorer, desire the maintenance of British rule. The 560 rulers of the Indian States belong to this class: they fear for their future in a free democratic India; but millions of landlords also (most of whom, like the smallest among the State rulers, have not the means to support the status which they claim for themselves) feel they are living dangerously on the edge of a precipice below which surges a sweating and starving mass of cultivators, growing increasingly restive and threatening to engulf them. They belong to the class for whom the known frying-pan is better than the unknown fire, and politically and socially see grave dangers to their own class in the changes that have come and are coming. As their numbers increase, their small properties are sub-divided and their position made all the more precarious.

The Bengal Land Revenue Commission has stated that there are about 3,000,000 *rentiers*—landlords of all grades—with assets of about Rs. 12,00,00,000, which gives an income

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of about Rs. 40 per head. If to these are added the so-called tenants, who have let out about three million acres of land for which they charge at least twice the prevailing rate of rent in the province, we have in the whole class what the Commission calls 'an incubus on the working agricultural population, which finds no justification in the performance of material services so far as agricultural improvements are concerned and fails to provide any effective means for the development of the resources of the land which is the greatest asset of the province'. What is true of Bengal is true of the country as a whole. Bihar, Assam, Orissa, one-third of Madras, the Central Provinces and the United Provinces, 'are known to be areas in which the landlords are supreme'; but even in Bombay, the Punjab, the ryotwari area of Madras, Sind and the North-West Frontier Province, the position is essentially the same. In the Punjab, which is called the province of peasant proprietors, about 52 per cent of the soil is cultivated by crop-sharing cultivators for whom the law provides no statutory protection of any sort. In these provinces also sub-letting is common, distribution of property in land is becoming increasingly unequal and the *rentier* class is growing in importance and power, a class which in the opinion of competent students of the subject is doing little to justify its existence and which is, to quote the Bengal Land Revenue Commission again, 'an incubus on the working agricultural population'.

What about the working agricultural population itself? It is contributing most to the growth of our population owing to its numerical preponderance, it has no outlet worth speaking of other than agriculture and it is putting unbearable pressure on the soil. Its need for land is becoming more desperate on that account and competition is acute. In Bengal only half the holdings are, according to the Land

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Revenue Commission, sufficient for the families who own them (i.e. in which they have occupancy rights), and the position in the other provinces, in spite of local variations, is not very different. Bengal has an average density of about 800 per square mile of cultivated area and all over the country there are large agricultural regions, with a population greater than those of some European states, where density exceeds 1200 persons to the square mile and there are considerable tracts in which it approaches and even exceeds 2000. The result is fragmentation of land—a rapid increase in the numbers of midget holdings which are insufficient either to support the families of the cultivators at the miserable level to which they are accustomed or to permit full utilization of the labour, knowledge and skill available in the family. The density of population in purely agricultural regions exceeds that of highly industrialized countries like Great Britain and Belgium, and it is in the agricultural regions of eastern Bengal, northern Bihar and Travancore that the largest increases of population have been recorded in the past two decades. This fact is impeding the progress of agriculture in this country and all the ameliorative devices which have been, or can be, suggested must have very limited application in this country so long as this deep-seated problem remains unsolved. The rate of agricultural progress in this country is painfully slow and it cannot be stepped up so long as this problem remains 'incapable of remedy'. The working agricultural population of India has much traditional skill and knowledge and given the chance it can give as good an account of itself as peasantry anywhere, provided it can find a rational basis for its work and livelihood.

The rent-receiving and land-cultivating classes and their inter-relations are, however, not the whole of our land system.

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Under them is a class of landless labourers—the agricultural proletariat—which is in a more important and almost hopeless position. Its size has been variously estimated, but probably is not less than 60 to 70 millions, about one-fifth of the total agricultural population of India. Most of the 'depressed classes' belong to this class, but its ranks are being rapidly swollen by the descent of the 'surplus' from the class of cultivators above. This class has no land, it gets only seasonal work and is therefore without employment for at least half the year, and its wages are even lower than the general level. This class has no labour legislation to protect it, is without organization and lacking in organizing capacity, and has no voice in our public life, not even in the red-flag-waving peasant unions. A considerable part has been reduced to the position of bonded servitude.¹ This proletariat is an integral part of our rural economy—of our land-system—and neither the state nor public associations have done anything to alleviate the economic position of its members. They are desperately in need of work and are prepared to cultivate land on any terms. By over-bidding, they put up the rental value of land beyond their own or the cultivators' paying capacity. They are the main source of the class of share-croppers who, under different names, abound in all provinces and are almost the mainstay of agriculture in many parts of the country.

This is our land system. That it is not 'proper' is beyond question. But all the measures which have so far been suggested or put into practice, including hand-spinning and the programme of the Village Industries Association, have failed to transform it—to divest it of its 'improper' features. Mahatma Gandhi has recently stated that 'we have land but

¹ In one district of Bihar, Purulia, there are known to be 60,000 Kamias—debt-slaves.

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no land system. Uneconomic holdings and methods have reduced us to the level of the beasts of burden'. The latter part of the statement is true but the first part is not. We have an extremely complicated land system and it is our most baffling problem—a problem which after the war will acquire an urgency hitherto unknown; but in spite of the mass of tenancy legislation recently enacted to palliate the situation and the certain opposition of the present beneficiaries of the system, the problem cannot be shelved. It has been dodged so far, and administrators, economists and politicians continue to dodge it in their schemes for improvement of agriculture and for rural reconstruction. But it has to be faced, for it has all the subversive possibilities of a truly dangerous situation. Our population problem is intimately interwoven with it and therefore reflects its baffling perplexities. If we realize the true nature of the problem and its inherent difficulties, we shall appreciate the fact that we cannot expect any mere land system to support even our existing population.

Industrialization and Population

The stock remedy to relieve the pressure of population on the soil is industrialization. The industrialization of India is a big problem and its discussion would demand more space than is available here, but such development of industries as has taken place since 1920 (and relatively speaking the development has been rapid) has absorbed only a small fraction of our population,¹ and has at the same time probably accelerated the decay of many cottage industries, thereby causing unemployment rather than reducing it; and the utmost industrial development that is possible under existing

¹ Not even one in a hundred of our total population is employed in modern industries.

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conditions cannot touch the fringe of our population problem—the problem of finding work for our existing and growing population—and may even aggravate the situation. Industrialization is for India a political, economic and military necessity, which has been inhibited by political factors. But so long as the bulk of our people remain extremely poor, the size of the market in India will be limited by the lack of purchasing power. This applies equally to goods produced by cottage workers or large-scale manufacturers and makes it unnecessary to discuss the relative merits of the two forms of production.

We are thus caught in a real vicious circle. There is an economic deadlock in our national life which has to be ended if we are to go ahead. Our agriculture and industries are reciprocally inhibitive. Agriculture cannot thrive and become progressive unless the surplus population on the land is taken off it. Industry, which alone could provide the alternative means of livelihood, cannot be developed because the products of industry cannot be purchased by the agriculturist owing to his extreme poverty. Agriculture and industry, instead of being complementary and mutually helpful, are repressed by a situation which includes and transcends them both. The vicious circle will be broken. The deadlock will be resolved. There can be no standstill agreements in the affairs of men; and the times in which we are living make it impossible for any country, especially a country in India's unstable position, to stand still. But the point which matters is that the change in the situation is going to be a rigorous task involving far-reaching political, economic and social changes, the nature and scope of which will be largely determined by the course of world events in the next five years. Their course is unpredictable and therefore the whole position quite inscrutable.

We do not know what the future has in store for this

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country and what alignment of forces we shall have to face in the years that lie ahead. There are certain things, however, which we do know. The whole of India is politically frustrated and one-fourth (the population of Indian States) is not only frustrated but politically petrified by dead hands of the past, by treaties, sanads and engagements which arc, we have been authoritatively told, to be maintained in their integrity. That means that 90 million people living in one-third of the country are to live, not only under medieval autocracy, but also in fragmented political units which cannot be made to function as efficient units of progressive administration. We have the declaration that India after the war will be free to determine her own future, but it would be wrong to assume that the path is going to be smooth.

We also know that even when India's political future is assured and national reconstruction begins, a lot will remain to be done. In the winning of political freedom we shall have gained experience and knowledge which will be of great value. We shall have acquired strength to combat the forces of obstruction within the country. But the necessary social readjustments will take a long time. As we have to take world factors into account and to co-operate with forces making for world co-operation, our internal policy will have to be fitted into a framework of world economy whose form and principle remain for the present indeterminate. Even if we can steer our course in the rough seas of national and international affairs, the magnitude of the task of raising 400 million people to a level at which life can really become creative, at which it ceases to be an unremitting struggle for existence and provides opportunity and scope to participate in a broad-based culture, will absorb all our energy and necessitate all possible expansion and development of our material resources.

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In the light of these considerations, what is our answer to the question posed at the beginning? Is the addition of nearly 70 million people to our population in the last two decades a matter for satisfaction or the reverse? Does it increase our strength or our difficulties? The answer has already been given. This increase is our liability, it has to be put on the debit side of our national account. It strains our already limited resources further, it intensifies our struggle for subsistence, it handicaps us in the task of working out our national liberation and it increases the already large arrears that will have to be cleared up when we are masters of our own fate. What is true of the growth of population that has already taken place is also true of the growth that is taking place now and will take place in the years through which we have to pass before we come to the end of our national struggle.

Socialism and Population

This brings me to the end of my argument, but before I conclude it, I have to deal briefly with two points the relevance of which will not be questioned. The trend of the argument is depressing. Its underlying assumption is that further growth of population in India, even when she is fairly set on the path of national reconstruction, would be undesirable. It seems to be an argument for crying halt to the increase of population. That it is, but not for all time to come. The distant future is completely hidden from us. It must be when the immediate and near future is so very obscure. But the next step, in the light of what we know, has to be a serious attempt to still what H. G. Wells has called 'the breeding storm', to exercise our reproductive powers with extreme caution and reserve. This conclusion may, however, be questioned by ardent believers in socialist

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construction and in the light of the experience of Soviet Russia.

The strides which Soviet Russia has made in developing her material and human resources, and the severe test which she has stood in resisting the mighty German onslaught, may be considered to be a contemporary refutation of the line of argument developed in this pamphlet. The legacy of Czarist Russia to the makers of modern Russia was as bad if not worse than our own legacy will be. Soviet Russia has had to pass through terrible trials and yet, since 1928, in a period of less than 12 years, she was able to develop enormously her agriculture and industry, create a new spirit in her people and tap those hidden human reserves which have been more valuable for her than the vast reserves of oil, metals, hydro-electric power and agriculture which were revealed and exploited in those twelve prolific years. The Russians have not worried about over-population in the least. They have been convinced that a rapid growth of population was necessary and desirable and that they would be able to raise the standard of living of the fast-increasing population to a level unknown before. This was their socialist faith and they have acted up to it.

The population of Soviet Russia has increased since 1926 by 15 per cent and in 1939 it was nearly 173 millions. Russia's birth-rate is 40 per thousand, twice as high as the birth-rate of Germany in spite of the frantic efforts made by the Nazis to increase it, and is 166 per cent higher than the birth-rate of most countries of north-western Europe. The next highest birth-rate in Europe is 26 per thousand, in backward Rumania. This high birth-rate has been maintained in spite of a considerable reduction of the death-rate and infant mortality and alongside a remarkable rise in the standard of living of the people, striking development of the social services

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and rapid increase in permanent investments in various forms. Soviet Russia has not been able to give her people the standard of living prevalent in the most advanced countries of the world and is still far from attaining her goal in surpassing all nations in respect of the living conditions of her people, but what she has accomplished in a period of great difficulties and with a fast-growing population is very creditable and may be urged as an argument against the view expressed above that we in India should make stationary population the aim of national policy for a fairly long period.

The conclusion of the counter-argument would be that what Soviet Russia has done India can do provided she chooses to develop on socialistic lines and makes use of Russian experience for expanding her national resources. This conclusion involves so many points and counter-points that it is not possible to consider them here. It has to be considered, for there is a wide diffusion of socialistic thought in this country and the traditional socialist view is that under their system there can be no population problem or over-population. The experience of Soviet Russia is generally taken as confirmation of this view and the facts cited above make it highly plausible. Soviet Russia has embarked upon a great adventure, one of the greatest in human history, and the achievements to its credit make it necessary to understand their bearing on the population problem, as on all problems of social life.

All that is true, yet it is necessary to bear in mind the special circumstances under which the Soviet system was established and brought into operation in Russia.

It has to be realized that the position in India, though in many respects not unlike the position in Russia before the Revolution, is in as many, if not more, respects significantly different. The points of difference cannot be enlarged upon,

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but for our purpose the most significant is that India is already densely populated and has no open spaces to fill. Soviet Russia, it is well known, covers one-sixth of the world, which is five times the total area of India. Of this three-fourths is in Soviet Asia and one-fourth in Soviet Europe (which itself covers nearly four-fifths of all other European countries put together). With five times the area of India it has one half its population; and as three-fourths of the population of Soviet Russia lives in Europe, one-fourth, i.e. less than 45 million persons, are living in 6 million square miles, which gives a density of less than 8 per sq. mile. A considerable portion of Soviet Asia is frost-bound and otherwise unfit for habitation and cultivation; but there is very large room for expansion in Russia, and this and their enormous resources have placed the Russians in a favourable position in dealing with their problem—an advantage which is not present in this country.

Soviet Russia answered the call of suffering humanity by responding to the call of the open spaces. The call of suffering humanity in India is also insistent and will have to be answered, but it cannot be answered by seeking and finding adventures in space, by spreading out our population over larger areas. There are open spaces outside India which we, and the people of other overcrowded countries, could fill speedily and with advantage. But they are mostly reserved for white races and we are in no position to force our way into them. Re-distribution of population is a problem which will have to be faced when a basis for enduring peace is sought; but it is unlikely that an earnest attempt to tackle it will be made in the near future. We can build no hopes on finding areas for settlement *outside India*. At present the total number of Indians domiciled overseas is less than one per cent and even they, like Indians in South Africa, are, in the words of Lord Hailey, treated as an alien element in the

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India less than 2 per cent of the area is under fruits and vegetables. Nutrition experts say that an adult has to take about 10 ounces of vegetables and fruits every day to secure the requisite quota of vitamins and mineral salts. The people of India are mostly vegetarians and need neither education nor persuasion to eat more fruits and vegetables. If less than 2 per cent of the area is under these essential foods, it is because the people cannot buy them; and if they can have the means to increase their daily consumption, the area under fruits and vegetables would have to be multiplied many times to meet the demand. As things are, this multiplication can only be done at the expense of the area under food grains. It is of no use telling people who, whether they are in towns or villages, live in dwellings worse than the worst slums of the West, that 'every house should have a vegetable garden or else vegetables should be grown on some suitable piece of ground'. In this country most of the holdings are not larger than allotments, and vegetables and fruits are grown over such a small area because the land is badly needed for growing cereals. We are suffering from a deficiency of food in spite of 80 per cent of our sown area being under food crops, and we cannot increase the quantity of fruits and vegetables, because the cultivated and cultivable land falls short of our minimum requirements. What is true of fruits and vegetables is also true of milk, the ideal food of the dieticians. In order to maintain even the present population in health we sorely need a vast extension of cultivation, and this is ruled out by limits set by nature.

Our mineral resources have not been fully surveyed, and even our known reserves are not efficiently exploited. We have to make the most of what we have and look for more. The need for expanding our resources is imperative

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but the point to realize is that the limitations which we have to surmount are serious and any assumption of our being able to have access to some Alladin's cave once we are in a position to set our own course is simply not true to the facts. The attainment of political freedom, the right social perspective and drive are essential preliminaries of any material advance; but granting that these have been secured, we have to reckon with the limitations of our resources in raising our people to the level of life that should be the national minimum. Even if conditions favourable for the introduction of socialism in India can be established, socialist reconstruction here is going to be a different and far more difficult proposition than it has been in Soviet Russia, and it is our population problem which will make most of the difference.

That means, of course, that when India is free and sets about the task of nation-building the population problem will at once be recognized as one of the foremost problems. Whether we have socialism or some other form of society in this country, our central task will be to free our people from the ceaseless struggle for existence and give them health, joy and the will to live. In this sense the population problem must remain our problem and the problem of all nations and under all social systems. It has to be treated as a problem in the remaking of the nation and not merely a problem of numbers. But it also follows from what has been said above that the numerical aspect of the problem has to receive its due consideration and restriction of numbers is essential for the remaking of the nation.

Birth-control and Population

In other words, we have to reduce the birth-rate in India if we are to succeed in solving the problem of want and

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misery. Mere reduction of numbers will not accomplish anything. It may create a vacuum but will not give us a nation of healthy and happy people. But if we do not restrict our numbers, we shall be severely handicapped in our efforts and may fail to make any headway at all. We must, therefore, have fewer babies born and aim at giving a fair chance in life to those that are born. We must reduce the birth-rate. Officially the birth-rate in India is 35 or 36 per thousand, and it has remained about the same for the last sixty years; but as at least one-third of the births go unreported, our actual birth-rate is somewhere near 47 or 48 per thousand. This is the highest birth-rate in the world and not far below the highest possible, i.e. 52 per thousand. Only the Arabs of Palestine have about the same birth-rate. There are three or four rather unimportant countries whose birth-rate is about 41 or 42, but the birth-rates of most countries are below 40 and a large number of them are between 15 and 20. About 120 to 130 lakhs of babies are born every year in India: only one-third of them live to be 30 and, as already stated, one-fourth of them die before they are one year old. The reduction of births is necessary to avoid or reduce the preventible loss of life, but the point to be emphasized here is that it is necessary to improve the quality of our people by reducing their quantity. This brings me to the question of birth-control versus self-control as alternative ways of reducing the birth-rate, of limiting the size of the family. There is no other voluntary method of achieving this result except abortion, which may without argument be ruled out as undesirable as a normal method of family limitation. The choice has, therefore, to be made between birth-control and self-control as methods of preventing the birth of unwanted children. The opinion on this point is divided in India as everywhere else and the

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beyond the power of thought of most people owing to their ignorance and poverty. When the knowledge that escape from involuntary parenthood is possible is made available for our people, they will use it as readily as the people in other countries. At present they do not know that such an escape is possible, and unless birth-control becomes a part of our health services, the knowledge cannot be brought within their reach. Voluntary clinics and propaganda agencies can play a valuable path-breaking role but cannot do constructive work on a large scale; this work has to be undertaken and performed by the state in a country like India. It will be undertaken as part of an all-round policy of nation-building when the state is fully alive to its duty to the people and can adopt a bold policy based on the knowledge that its authority is derived from their willing consent.

Conclusion

It need not be added that this cannot be done now and will not be done until the political change, to an Indian National Government, has actually taken place. This change, howsoever distant it may appear on account of our horizon being darkened by the turn that events have taken, has to come. For the time being we may feel that the tide is running against us and many among us may regard the future with doubt and even dismay. But this is a passing phase. Faith in our future will be revived and sustain us in the trials which may still lie ahead. At the end of 'a long and dark tunnel' there is, to adopt for my purpose the words once used by Mr Churchill, 'light'—yes, also for us. We have to look ahead and plan for the future. Knowledge and understanding of the basic facts of national life are essential, and one of the most important of these facts is that India

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is an over-populated country. Of over-population many definitions have been given. One of the simplest is that of Carr-Saunders, who says that 'over-population means that there are too many people in relation to the whole set of facts'; and the view urged in this pamphlet has been that if we review 'the whole set of facts' in India, there are too many people in the country. For solving the problem of population in India we have to lay more stress on changing the whole set of facts, i.e. the set-up of our national life, than on the reduction of numbers; but it is also necessary to realize that if our efforts are to bear fruit we have to attack the problem from both ends. In other words, the reduction of numbers has to become a part of the policy of national renovation. The time will come when this policy will become a practical proposition. In the meanwhile we have to do in thought what later we shall have to put into practice. We have to realize how cheap life is in this country and how precious it ought to be. In one of his books H. G. Wells, speaking of the peasants of Bengal, describes how 'man-eating beasts will come into the villages and carry off people in the night from their houses. Locks, bolts and bars cost money and peasants cost nothing'. This is the essence of our population problem. Men cost nothing and it does not pay to give them protection, not only against wild beasts but against other ravages of nature, and what is worse against the ravages of men. To solve the problem of population we have to change our measure of values and regard the protection and enrichment of human life as our paramount duty, our all-absorbing concern. We have to think in terms of this measure, we have to put a right value on life.

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TARIFFS AND INDUSTRY



**OXFORD LAMPHLETS
ON INDIAN AFFAIRS**



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TARIFFS AND INDUSTRY

BY
JOHN MATTHAI



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A SURVEY of the policy of Discriminating Protection followed by the Government of India since 1923 shows that, in the rather limited sphere where it has been applied, substantial success has been achieved: the steel, cotton piecegoods, sugar, match and paper industries have all registered remarkable progress in the past fifteen years. But should the policy be continued in the post-war period? The most urgent prerequisite for increasing the national income is rapid and widespread industrialization, and India's tariff policy should be determined by that need. It is argued that, in view of the lengthy period of reconstruction throughout the world that will follow this war, restrictions on the import of consumer's goods will be desirable at first in order to conserve foreign exchange for the purchase of capital goods; but tariff protection for Indian industries will be unnecessary for many years to come.

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TARIFFS AND INDUSTRY

It is proposed to deal in this pamphlet, *first*, with the origin and working of the present policy of Protection in India and, *secondly*, with the problem of industrial development in India and the extent to which protective tariffs can help it in the post-war period.

I. Origin and Working of Discriminating Protection

From the middle of the nineteenth century until the outbreak of the last war, the tariff policy pursued by the Government of India was based on the principle of Free Trade. This was in keeping with the traditional policy which England had followed for many years in respect of the Colonies. Since the days of the Industrial Revolution, England had gradually achieved the position of the principal supplier in the world of manufactured goods, which she exported in return for the foodstuffs required by her population. Hence the economic existence of England came to depend on a free and uninterrupted flow of trade with other countries. Free Trade became a necessity for her and what originated as a necessity gradually grew into a principle of universal validity.

As India was a Dependency, she was hardly in a position to assert her freedom in tariff matters, and Free Trade, which was the corner-stone of

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England's economic policy, was imposed on her without sufficient regard for the circumstances of the country. When after the Indian Mutiny it became necessary to impose import and export duties as a means of relieving the financial situation, it was laid down as a general principle that customs duties should be levied only for revenue purposes and should not be employed as an instrument of Protection. Later in the century this principle was reaffirmed and it was specifically declared that where manufactured articles were produced by Indian industries, the protective effect of customs duties should be nullified by countervailing excise duties. The excise duty on cotton manufactures, which was for many years a controversial feature of India's revenue policy, was a result of the application of this principle.

The first stage in the evolution of Protection in India was the famous Parliamentary Resolution of August 1917 which initiated the constitutional reforms based on the Montagu-Chelmsford Report. That Resolution declared that the policy of His Majesty's Government, with which the Government of India were in complete accord, was 'that of increasing the association of Indians in every branch of the administration and the gradual development of self-governing institutions with a view to the progressive realization of responsible government in India as an integral part of the British Empire'. The principle of self-determination to which this Resolution gave expression carried with it as a necessary corollary

freedom to carry out modifications in the commercial and financial policy of the country. Public opinion in India as voiced by the elected representatives of the people was markedly in favour of a policy of Protection and it was, therefore, obvious that once the British Parliament accepted the principle of responsible government for India, the adoption of a policy of Protection was a matter of time.

That fiscal independence would be a logical consequence of the grant of responsible government was recognized by the Joint Select Committee of Parliament which examined the Government of India Bill of 1919. In their Report the Joint Committee expressed their views on this question as follows: 'Nothing is more likely to endanger the good relations between India and Great Britain than a belief that India's fiscal policy is dictated from Whitehall in the interests of the trade of Great Britain. That such a belief exists at the moment there can be no doubt. That there ought to be no room for it in the future is equally clear. . . . A satisfactory solution of the question can only be guaranteed by the grant of liberty to the Government of India to devise those tariff arrangements which seem best fitted to India's needs as an integral portion of the British Empire. It cannot be guaranteed by a Statute without limiting the ultimate power of Parliament to control the administration of India and without limiting the power of veto which vests in the Crown and neither of these limitations finds a place in any of the Statutes in the British

Empire. It can only, therefore, be assured by an acknowledgement of a Convention.' This was the origin of the well-known Fiscal Autonomy Convention which was finally adopted in 1921. The Convention represented an important advance in India's progress towards self-government. Since the beginning of the British Empire in India, the main conflict between the two countries has centred round matters of trade and, therefore, the declaration of Fiscal Autonomy as a principle of government marked a stage of fundamental significance in the relations between the two countries.

Apart, however, from the fact that it set forth a new principle of constitutional importance, it is doubtful whether in effect the advance was as great as was expected at the time of its introduction. The Convention states that the Secretary of State should as far as possible avoid interference as regards tariff arrangements when the Government of India and its legislature are in agreement and that his intervention, when it does take place, should be limited to safeguarding the international obligations of the Empire or any fiscal arrangements within the Empire to which His Majesty's Government is a party. What happens in actual practice is that all tariff arrangements are first discussed by the Government of India with the Secretary of State. Although the proposals which the Government place before the legislature are arrived at by them on their own responsibility, previous consultation with the Secretary of State is an invariable feature of the procedure followed by the Government in determining their own

proposals. Moreover, if—as often happens—the legislature does not accept the Government's proposals, the Convention becomes inoperative and the Government of India resume consideration of the proposals as a subordinate government under the control of the Secretary of State. In spite of the autonomy provided in the Convention, it is obvious that the Secretary of State still holds a position of great influence in the determination of tariff arrangements in India and, as the Government of India hold authority under the Secretary of State, it is a legitimate inference that the fiscal autonomy provided by the Convention lacks substance. This impression is strengthened by various cases which have occurred during the past twenty years where the recommendations of the Tariff Board as well as those of the non-official section of the legislature have been rejected by the Government of India.

The final stage in the evolution of a protective policy in India was the publication of the Report of the Indian Fiscal Commission in 1922 and the acceptance of their main recommendations by the Government of India in 1923. The policy which resulted from the report of the Indian Fiscal Commission is what is known as Discriminating Protection. Under this policy not all industries are eligible for Protection but only industries which fulfil certain necessary conditions. These conditions as stated in the Majority report of the Fiscal Commission are as follows:

- (1) The industry must be one possessing natural advantages such as abundant supply of raw material,

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cheap power, a sufficient supply of labour or a large home market. Such advantages will be of different relative importance in different industries but they should all be weighed and their relative importance assessed. The successful industries of the world possess certain comparative advantages to which they owe their success. No industry which does not possess some comparative advantages will be able to compete with them on equal terms and, therefore, the natural advantages possessed by Indian industry should be analysed carefully in order to ensure as far as possible that no industry is protected which will become a permanent burden on the community.

- (2) The industry must be one which without the help of Protection either is not likely to develop at all or is not likely to develop so rapidly as is desirable in the interests of the country. This is an obvious corollary from the principles which have led us to recommend Protection. The main object of Protection is either to develop industries which otherwise would not be developed or to develop them with greater rapidity.
- (3) The industry must be one which will eventually be able to face world competition without Protection. In forming an estimate of the potentialities of this condition being fulfilled, the natural advantages referred to in condition (1). will, of course, be considered carefully. The importance of this condition is obvious. The Protection we contemplate is a temporary Protection to be given to industries which will eventually be able to stand alone.

The conditions laid down by the Fiscal Commission closely follow the line of thought by which the protection of an infant industry was recognized by the older economists as a legitimate

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exception to the doctrine of Free Trade. Protection, that is to say, is to be granted only to such industries as have a reasonable chance of establishing themselves in the country and only as a temporary measure to enable them to surmount the period of initial struggle. Although the conditions formulated by the Fiscal Commission are generally unexceptionable in theory, the way in which Protection has been administered with reference to these conditions has been the subject of considerable criticism.

The first condition is that the industry concerned should possess natural advantages such as a local supply of raw materials, adequate market, etc. The factors mentioned in this condition are illustrative of the kind of natural advantages which an industry applying for Protection should possess. It was not intended by the Fiscal Commission that any one of these factors or all of them should be necessarily present, but that, on a general review of the position of the industry, it should be established that the balance of advantage is in favour of the industry. In recent years the Government of India have placed a more rigid interpretation on this condition and have insisted that the principal raw materials required for the industry should be available in India before Protection can be granted. The application of the glass industry was refused on the ground that soda ash was not available in India, although in the opinion of the Tariff Board, on a review of all the circumstances, the industry possessed sufficient advantages to compensate it

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again for Protection and in this inquiry it was found by the Board, on a review of costs and prices, that the industry would not merely be able to dispense with Protection ultimately, but that it did not require any greater assistance than the restoration of the original revenue duty. The case of the magnesium chloride industry provides an interesting illustration of the practical difficulties involved in the application of the crucial condition on which Discriminating Protection is based.

In spite of these criticisms of the policy of Discriminating Protection, it is necessary, if we are to form a fair and correct judgement regarding its working, to recognize the substantial successes achieved by it. The progress made by industries which have received Protection is illustrated by the following figures:

		<i>Steel</i> (ingots)	<i>Cotton</i> <i>Piecegoods</i>	<i>Sugar</i> (Direct from cane)	<i>Match</i>	<i>Paper</i>
		1,000 tons	Million yards	1,000 tons	Gross (lakhs)	1,000 tons
1922-3	...	131	1,725	24	8	24
1939-40	...	1,070	4,013	1,242	220	70

It is a remarkable fact that while industrial production in most countries showed a heavy decline during the period of the great depression which started in 1929, the output of the principal industries in India showed a steady and, in

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some cases, a marked increase. The favourable position in which India found herself during this period as compared with other countries was due largely to the fact that it was during these years that the effect of the policy of Protection began to manifest itself. Whatever criticism may be made regarding the protective policy adopted in India, the immediate success of that policy, as disclosed by these facts, deserves recognition as an achievement which testifies in some measure to its soundness and efficacy.

The question has often been asked what the burden which Protection has thrown upon the community has been. Several attempts have been made by economists in India to estimate the cost of Protection to the community, but none of them has yielded any reliable conclusions. There are certain elements in the burden of Protection which in the nature of things are almost impossible to assess accurately. We can measure the variation in the prices of individual commodities since the grant of Protection, but unless we can at the same time determine the extent to which foreign manufacturers have reduced their prices in the Indian market in consequence of Protection and also the level of prices which might have ruled in the country if no Protection had been granted, no correct estimate can be made of the burden of Protection. In view, however, of the character of most of the commodities which bear protective duties in the Indian tariff system, it is possible to venture the opinion that such burden as Protection has in-

volved has been borne in the main by the more well-to-do classes in the country.

II. Future Industrial Development and Tariffs

In any scheme of economic reconstruction in India after the war, industrialization is bound to occupy an important place. There has been for many years a strong and widespread feeling in the country that a rapid development of industries is essential to economic progress. The extent to which Indian industries have expanded under the stress of war requirements has given further impetus to the demand for industrialization.

The most important reason why we want more industries in the country is that they will help to bring about a more balanced economy. At present we are dependent to a preponderant extent upon agriculture as our means of livelihood. This is, to say the least, a precarious position since agriculture is conditioned largely by climatic factors and in our country principally by the state of the monsoon. The failure of the natural factors on which agriculture depends may cause such serious damage to crops as to affect vitally the resources of the population during the year. It is necessary to offset this by the establishment of manufacturing industries which depend less directly upon natural conditions. The precariousness of an economy which depends primarily upon agriculture is not merely confined to the livelihood of the population, but affects also the financial resources of the Government. Indian

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budgets, especially in the Provinces, are so largely determined by the condition of the crops that the natural factors affecting agriculture are a matter of grave concern to the Government.

Closely connected with this is the consideration that the establishment of more industries in the country will help to some extent to relieve the terrific pressure which the population exerts upon the land. It is the increasing pressure exerted by a growing population upon the land which accounts for one of the gravest difficulties of our agricultural economy, namely, the increasing tendency to minute division and fragmentation of agricultural holdings. It is extremely difficult to introduce improved methods of agriculture unless some check is placed upon this tendency. If some alternative occupation could be found for people, to that extent we might be able to check the tendency to land being divided up into holdings too small for economical cultivation. In this sense, therefore, industrialization may be a means of improving the condition of agriculture and rendering it more profitable.

From an economic point of view, one of the great needs of India is to promote the habit of investment. We have made great progress in this respect in recent years and as far as the more well-to-do sections of the population are concerned, capital can no longer be regarded as shy to any exceptional extent; the habit of investment has become widespread. But among the great mass of the population there is a large need still for stimulating the habit of investment. The

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formation of well-organized industries by joint-stock companies under reputed management would afford facilities for people of limited resources to invest in industrial shares. The practice of investment thus stimulated will not merely make available more resources for the financing of industries, but by checking the habit of hoarding increase the funds available for permanent improvements to agriculture. If money were released more widely for investment purposes, it would help to bring down the unduly high rates of interest which prevail in villages.

There are certain elements of mental outlook and character which participation in large mechanized industries is calculated to promote, such as alertness, application, decision, and resourcefulness. Agriculture, to the extent that it depends so largely on the forces of nature, tends to produce a passive outlook and the long periods of seasonal unemployment incidental to it create an attitude of general lethargy. There are undoubtedly valuable traits of character which an agricultural environment helps to produce and much of what is often described as the spiritual heritage of our people is to be traced to the agricultural environment in which we live and work. But in the workaday world in which we are placed, this needs to be supplemented and corrected by habits associated more directly with an industrial environment.

Lastly, the need for an increase in the national income constitutes an important argument for industrialization. Although it is not to be expected that an increase in industrial production will lead

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to a proportionate increase in employment, there can be no doubt that industries will add substantially to the total national income and thereby increase the resources available to the state for financing schemes of social and economic improvement.

Not long ago it was a widely accepted belief that countries such as India were under certain permanent climatic disabilities as regards the establishment of large-scale mechanized industries. The advance of science and technology is rapidly enabling such countries to overcome the disabilities imposed by nature. Fifty years ago an industry involving operations at high temperature, such as the sheet iron industry or the tinplate industry, would have been considered impossible in India. But the introduction of suitable cooling arrangements and the construction of factories with high roofs and good ventilation have eliminated this difficulty and have enabled these industries to establish themselves. Similarly artificial humidification has enabled the cotton textile industry to operate efficiently in regions where the existence of a relatively dry climate might otherwise have proved a serious handicap.

The objection has often been raised that if India were in a position to produce the manufactured goods she now imports, the consequent reduction in our import trade would render it difficult to find the foreign exchange necessary to finance our large export trade in agricultural commodities. It has been urged that the growth of industrial development will, therefore, react

adversely upon the marketing of India's staple agricultural products. During the ten years preceeding the outbreak of this war, there was a considerable increase in industrial production in India. In cotton manufactures, in steel, in sugar, in matches, in cement, the great bulk of the country's requirements was met by local production, but it could not be said that in consequence of this there was such a decline in the exchange resources available to our customers abroad as to imperil our export trade. The truth is that when an increase takes place in industrial production, new avenues arise for the utilization of imported articles which, provided industrialization proceeds gradually and at a moderate pace, will be sufficient to cover exports. The additional income produced by industrial enterprise must either be saved or be spent. If it is saved, then it induces further investment in industries and further expenditure on products essential to industrial development which cannot be obtained locally. It is significant that while there has been a decline in recent years in the imports of consumable goods into India, there has been at the same time a very large increase in the imports of such articles as machinery and chemicals which are required by industries. If the surplus wealth produced by new industries is spent and not saved, then it often happens that the demand for many articles, especially luxury articles, will increase and these will be imported from other countries, thus helping to maintain the import trade. The argument that, because

exports must be paid for by imports, the starting of industries for the production of imported articles will hinder the export trade of the country assumes a certain static character in the demand for commodities and in the composition of foreign trade which has not so far been borne out by the statistics of Indian trade. While this is true under the conditions now prevailing in India, it is likely that if a plan for industrial development is adopted which aims at a rapid and extensive establishment of industries, a different situation may arise. The issues which this will raise will be considered later.

If industrialization is a matter of great importance to the economic progress of India, the question of tariffs as a means of assisting the development of industries requires examination. As far as one can judge at present, it is likely that in the next few years Protection will assume less importance in the economy of the country than it has done in the past. The object of Protection is to help local industries against foreign competition and, therefore, the necessity for maintaining a policy of Protection will depend on how far Indian industries will be exposed to competition from other countries. It is clear that so long as the war lasts, the abnormal demand for articles of all kinds for war purposes, the restriction of imports and the difficulties of shipping and of foreign remittance will largely eliminate foreign competition in manufactured goods. It is also extremely probable that for several years after the termination of hostilities the same conditions will

prevail. How long they will last is a question to which a definite reply is hardly possible at the present stage. There is, however, one aspect of the post-war situation regarding which it is possible to speak with some assurance. The colossal destruction of material assets which the present war has caused will call for a prolonged period of reconstruction on an extensive scale so that the duration as well as the extent of reconstruction required will far exceed what was found necessary after the last war. It is reasonable to anticipate that for a period of approximately five to ten years from now, the demand for consumable as well as capital goods will outstrip supply and existing industries in all countries will be kept more or less fully occupied. The problem during this period will be how to meet a reviving demand from countries which have been starved of goods with the limited supply available rather than to restrict supplies so as to avoid overproduction and uneconomic competition.

During this period of comparative freedom from foreign competition, Indian industries will enjoy a further advantage due to geographical and administrative factors. This advantage arises from the fact that Indian industries have access to a large internal market covering the whole country with no customs barriers between its different parts. The advantage will, of course, be diminished if, in response to sectional demands, the country is partitioned into separate and completely autonomous administrative jurisdictions. Even if such partition takes place, it will be possible,

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without infringing autonomous rights, to make provision for customs arrangements between the separate Governments which will maintain the whole of India as a Free Trade area for purposes of internal trade. An additional advantage which Indian industries will have in the next few years is that in consequence of the large increase in the prices of agricultural and industrial commodities due to war conditions, the purchasing capacity of India's internal market will have increased considerably as compared with pre-war years. Conditions, therefore, appear to be particularly favourable to a rapid development of industries in India in the near future.

If the foregoing estimate is correct, the assistance which Indian industries will require from the state will be direct assistance in such essential matters as finance for capital requirements, scientific research, transport, education and public health rather than the kind of indirect assistance which protective tariffs afford. Tariff assistance has its uses under certain conditions, but it serves no purpose and may prove worse than useless if the conditions required for efficient and successful operation of industries are lacking. The chief abuse to which a protective policy is liable is that the immediate relief which it affords is apt to make both the Government and industrialists oblivious to the fundamental factors which determine the growth of virile and healthy industries. From this point of view it is fortunate that in the years which lie immediately ahead, Indian industries, freed from the fear of

uneconomic competition from abroad, will be in a position to direct their attention to the vital question of internal reorganization. In the accomplishment of this task, the state will necessarily have to play a very important part. But the state will not fulfil its part as it ought to unless it learns to think in larger and more constructive terms of its responsibilities and to quicken the pace of its activities. Protection by tariffs is a matter which even the stalest bureaucracy can handle with apparent success. But the internal reconstruction necessary for a vigorous, forward-looking policy of industrial development will call for energy and vision such as only a National Government responsible to the people and sensitive to their aspirations can possess.

The conclusion suggested by the preceding discussion is that in the period immediately following the termination of the war, protective tariffs are not likely to play an important role in our industrial policy. The question still remains what our policy in the long run is to be as regards protective measures which involve restriction of trade. When the disorganization caused by the war has been remedied and the transition to a normal peace economy has been completed, problems of trade competition may arise again not dissimilar to those which arose during the inter-war period. If that happens, it is well to remember that the trend of the best thought in progressive countries is definitely opposed to a perpetuation of national barriers to the free movement of trade. The demand for freer inter-

national trade is based on the unanswerable plea that a world economy which is based on an expansionist rather than a contractionist outlook on trade is in the long run the best for all countries. To this plea a free India cannot return a blank negative without damaging her position in the eyes of the rest of the world and without ultimately stultifying herself.

A plan for an international trade agreement after the war which would not involve too violent a break with the existing system was recently proposed by the Chairman of the Lancashire Cotton Board in an address to the American Chamber of Commerce in London. The following is a brief summary of his proposals:

The plan is based on a universal system of agreements, each arranged in two parts. Part I would comprise all goods not subject to 'disturbing influences'. For this group of goods, there should be no quotas, prohibitions or discrimination, and no licences, except in so far as these may be temporarily necessary for reasons of exchange; and no country would be allowed to levy import duty higher than 25 per cent *ad valorem*. Part II, on the other hand, would include commodities subject to disturbing influences, such as the transition from war to peace, structural changes in production caused by the war, competition arising from different standards of living, the trade cycle, and the impact upon industry and trade of scientific progress and air transport. Such goods would be given special treatment by means of volume control, price control, buffer stocks, lend-lease exchanges, or exceptional tariff rates. No commodity would be eligible for Part II unless it could be shown that trade in it was clearly and substantially influenced by one of the five special factors, and that it formed an important percentage either of the trade

between two negotiating countries, or of the total economic activity of one of them. Third-party countries may have to be informed beforehand of commodities for which special treatment was claimed, and, if some international economic council were formed, it should be informed of all Part II agreements which, moreover, might be subject to a time limit. If special treatment can no longer be justified for particular goods, these should be transferred to Part I; similarly, there should be provision for transferring goods from Part I to the group of commodities eligible for special treatment. Part II should not become a refuge of inefficiency.

From India's point of view this plan appears to provide a hopeful line of approach to the difficult question of international agreement in trade matters. Subject to suitable adjustments in matters of detail, India's interests will be sufficiently safeguarded under such an arrangement if, *first*, the disabilities to which industrially backward countries are subject by reason of the earlier start which other countries have obtained are included among the 'disturbing influences' which would justify special treatment of certain commodities; and, *secondly*, it is laid down that the agreement will not prejudice the right of each country to decide ultimately for itself what action it will take in regard to commodities which in its opinion are of special importance in the national economy, judged not merely by the volume of trade in these commodities but also by their intrinsic character.

The principal class of industries in regard to which India's right to make her own tariff arrangements should be unhampered is what are

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generally referred to as key industries. These comprise industries which are essential for defence purposes and also industries the products of which are indispensable to other industries. India in recent years has made substantial progress in the development of industries producing consumable goods, but she still lacks even the minimum equipment of key industries required for a country of her area, population and potential resources. No trade agreement which is likely to limit her freedom to develop essential industries can be accepted by her at the present stage of her economic development. Unless India is allowed to retain complete freedom of action as regards these industries, she cannot afford to participate in any scheme of international trade agreement. It is necessary to call attention to this fact since in the discussions which are now taking place in Allied countries regarding resumption of trade after the war, too little attention appears to be paid to the position of countries whose economy still remains predominantly agricultural but whose future welfare is bound up with a large measure of industrialization. Among advanced industrial countries the present position of industrially backward countries is apt to be regarded as a permanent feature of world economy. Unless, therefore, public opinion is organized and practical measures are taken in time, there is a danger that the case of countries like India will go by default and their ability to redeem the situation be seriously crippled.

In considering the place of India in post-war

international trade, some reference should be made to the international currency schemes which are now under discussion in the United Kingdom and in the United States of America. There are important differences of detail between the schemes propounded in the two countries. But the main object is the same, namely, to remove the difficulties in discharging international monetary obligations which were so marked a feature of the inter-war period. These difficulties arose chiefly from two circumstances. One was that gold, which was the medium by which in the last resort international payments used to be made, became inaccessible to most countries because of the huge reserves accumulated in other countries, principally the U.S.A. The other was the desperate efforts made by several countries during the period of the great depression to retain and extend their share of foreign trade through the temporary advantages resulting from the depreciation of national currencies. The solution proposed in both the British and the American schemes is the creation of an international institution in which a sufficient measure of control and financial resources is vested by the participating countries for facilitating remittances and for preventing frequent and excessive variations in exchange rates.

While both the schemes are primarily concerned with the monetary mechanism required for the purpose, it is essential to the successful working of any arrangement for stabilizing exchange rates and liquidating trade obligations that it should

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take into account the need for securing as far as possible a proper balance of exports and imports over a period. Now that gold is no longer available freely as a medium of international exchange, a scheme for removing monetary obstacles to *international trade cannot work in the long run* unless at reasonable intervals the goods and services exported by a country can be paid for by the goods and services imported by her. Hence it follows that the question of an international monetary mechanism inevitably brings into issue the trade policy, particularly with reference to tariffs, pursued by the countries participating in it. Whether the question is held over for the time being or not, ultimately there is no escape from the fact that the monetary issue and the tariff issue are bound together and cannot be separated logically. Whatever may be the fate of the particular schemes now under discussion, all experience in recent years points to the conclusion that some arrangement on these lines must be devised unless trade and consequently production throughout the world are to be progressively curtailed. For this reason it is important for India to determine beforehand what her attitude is to be towards a policy of Protection consistently with her obligations as a member of the comity of nations. This problem, as pointed out before, is not likely to assume an acute form in India in the years immediately following the termination of the war. But when the pressure exerted by reconstruction and relief measures upon the world's available supplies of goods ceases, a period of severe

competition in trade may again arise and a policy of restricting imports as a means of safeguarding industries may become again a live issue. It is necessary, therefore, for India's leaders to make up their minds as to the limits within which protective measures may be employed in the country so as to secure, on the one hand, that India's vital interests do not suffer damage and, on the other hand, that India's action does not needlessly contribute to the dislocation of world trade.

On the assumption that India will at an early date attain complete freedom in shaping her economic policy and that conditions will continue to be favourable to industrial development as they happen to be at present, it may be taken for granted that a big drive towards industrialization will be launched in the country in the very near future. It is not possible at this stage to determine precisely what the effect of a plan for extensive industrialization in India will be on her foreign trade. Some general considerations, however, may be indicated. From the point of view of organizing new industries in the country, the great lack at present is capital goods such as plant and machinery and technical skill and experience. For these India will be dependent for a considerable period to come upon foreign countries. In other words, if she is to achieve her object of bringing about a substantial change in the present balance between agriculture and industry, she must be prepared for a large-scale importation of the capital goods and technical services necessary for establishing new industries. To some extent

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these imports will be paid for by the sterling balances which she has accumulated during the war. But if the industrial planning proposed is to be on a scale sufficient to make a real change in the economic structure of the country, the cost of the capital goods and services required will be far in excess of the credits held by her abroad at present and also of any additions which may be made to them during the rest of the war. India over a long period has had a favourable balance in respect of her trade in commodities which has been largely utilized for the payment of interest on her borrowings abroad. A substantial part of these obligations has now been transferred to India and it is likely, therefore, assuming pre-war trade figures, that she would have a larger balance in her favour after the war. Even this will be absorbed, and more than absorbed, by the payments due from her in respect of capital goods and services. Any large scheme of industrial planning, therefore, which India may adopt will perhaps for a period of a whole generation place her in the position of a net importing country. During this period it will be necessary for her to restrict imports of such consumable goods as may be produced in sufficient quantities within the country so as to conserve her exchange resources as far as possible for the purchase of plant and machinery from abroad.

If, therefore, India chooses to enter into a trade agreement of the kind referred to earlier in this discussion, the position will be that while the execution of an industrial plan is in progress, it is

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consumable goods which will mainly fall within the category of articles requiring special tariff treatment. This, however, will be a temporary phase. On the other hand, when the execution of the plan has been completed, the position will be reversed and capital goods will replace consumable goods in the schedule of commodities eligible for special treatment. In any scheme of industrial planning for India, the primary consideration should be to establish those key industries which are indispensable in further industrial development and without which no real progress can be achieved. When these industries have been started, protective measures for their maintenance against foreign competition will be a matter of the utmost national importance and provision for such measures should form a vital part of any trade agreement which India may adopt. The principal industries producing consumable goods are now fairly well established in the country and, barring abnormal conditions, a policy of high tariffs or similar restrictive measures will be hardly necessary for their protection. The necessity for the inclusion of such goods in the initial years of industrial planning within the category of articles calling for special tariff treatment does not arise from protective considerations but rather from the need for conserving foreign exchange for financing the purchase of capital goods.

Three possible stages, then, may be distinguished in the development of Indian trade policy after the war. *First*, during the years immediately

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following the termination of hostilities, it will not be necessary to adopt a policy involving other than a moderate restriction of imports as regards consumable as well as capital goods. *Secondly*, while a large-scale industrial plan is under way, its successful prosecution will call for a policy of high tariffs or similar restrictive measures for consumable goods and a policy of low tariffs and generally of free trade in capital goods. *Thirdly*, when the more essential industries envisaged in the plan have been established, the weight of restrictive measures will be shifted from consumable to capital goods. Since restriction in the case of capital goods, if enforced by means of high import duties, will lay a heavy burden on all industries, other measures of protection will have to be devised for the assistance of Indian industries producing such goods.

The argument of this pamphlet may be summed up as follows. India needs, and without delay, to take a big forward step in industrial development. The present is in many ways a favourable time for initiating it. It requires, however, as an essential pre-requisite the formation of a truly representative government in the country. With the assistance which the state can provide under a National Government, the present ill-balanced economy can be rectified within a measurable period of time. Although during this period India will be preoccupied with the measures needed for her own economic salvation, she cannot forget that she has also duties to other nations. Indeed, her own interests require that she should

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develop an international outlook in economic matters. She must, therefore, be prepared in spite of self-regarding preoccupations to respond to any reasonable appeal which may be made to her for economic co-operation with other countries. It is within the bounds of practicality to devise a scheme for international agreement in trade matters in which India may participate without detriment to her own interests. The time has come for India's leaders to set themselves to explore the lines along which India's interests and her obligations to the world can be successfully reconciled in the economic sphere.

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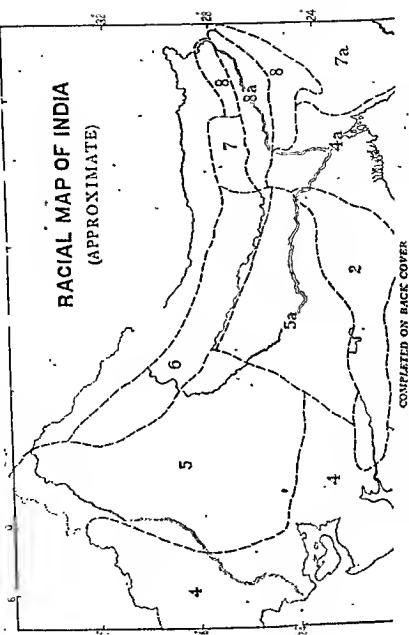
RACIAL ELEMENTS IN THE POPULATION



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ON INDIAN AFFAIRS



RACIAL MAP OF INDIA (APPROXIMATE)



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No. 22

RACIAL ELEMENTS IN THE POPULATION

BY

B. S. GUHA



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THE *Ethnographical Survey of India* under Sir Herbert Risley first published in 1891 the scientific classification of the Indian races under seven heads, namely the (1) Dravidian, (2) Mongoloid, (3) Mongolo-Dravidian, (4) Arya-Dravidian, (5) Scytho-Dravidian, (6) Indo-Aryan, and (7) Turko-Iranian. In the Census of 1931, the author carried out a systematic anthropometric survey of the peoples of India and revised Risley's earlier results. In the present pamphlet he attempts to give in simple language the main ideas held by modern anthropologists on the Indian racial elements. He defines the biological view of Race and describes the relation between racial and cultural groups. Finally he discusses what constitute the racial problems in this country and suggests what he considers to be appropriate remedies.

B. S. Guha has been Anthropologist to the Zoological Survey of India since 1927. He was educated at Harvard, and was elected Vice-President in Physical Anthropology in the International Congress held at Copenhagen in 1938. His anthropological works include Reports on human remains excavated at Nal (1929); Mohenjo-daro (1931 and 1937); and Racial Affinities of the Peoples of India in the Census of India for 1931, Vol. 1, Part III (1935).

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The Definition of Race and its Meaning

BEFORE anything can be said about the Races of India and their distribution, it is necessary to form some idea of the meaning and implications of the term Race, for, as popularly used, it lacks precise definition and not unoften conveys more than one meaning. Its use in the linguistic sense is common, such as the Latin Race, the Aryan Race or the Dravidian Race. It is used also in the sense of a people or nation like the French or the British Race; and instances are not wanting when it is meant to signify religious and cultural groups, e.g. the Hindu Race, the Moslem Race or the Jewish Race. But none of these meanings is correct. Race is a word used in biological sciences in the classification of plant and animal groups in the physical sense alone, and its extension to linguistic and cultural spheres is without any justification, and is the cause of a great deal of confusion of thought. It is therefore desirable to restrict the term to its physical sense divorced from all linguistic and cultural associations. But even as a biological concept it has some special significance when applied to Man which must be clearly brought out before the differentiation of Man into the existing races can be rightly comprehended.

One of the most striking features of the human species is the immense variety of its members. Except in faraway islands, inaccessible mountain tracts or isolated spots in dense jungles, the inhabitants seldom show close uniformity. It is true that in a great measure this multiform picture of human society is due to artificial causes such as differences in dress and habit associated with divergences of personal taste, local custom and religion not found among lower animals. Otherwise the laws that govern the transmission of bodily characters he shares equally with the rest of the animal kingdom. But whereas, in the latter, crossing has

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been within circumscribed limits among smaller numbers and the resultant types fewer, in Man the mixing of blood took place on a much larger scale in wider territories as a result of conquest and migrations. Naturally therefore many more types or recombinations came into being. These were also better preserved as natural selection operated less effectively in his case in weeding out the undesirable or less suited elements.

Since the discoveries of Mendel we know definitely that what the offspring receives is not a preformed miniature replica of its parents, only to be enlarged to become an adult, nor even fully developed characters; but certain closely packed, rodlike bodies carried in the gametes or germ-cells, which they bequeath to their children—to be exact a string of 48, of these bodies in the case of Man, the quota of each parent being exactly half. These are called chromosomes, from the fact that they can be coloured or stained by dyes to be visible under the microscope. These gametic chromosomes, unlike those of the other cells of the body, remain unaffected and are passed on from generation to generation without change, and may be regarded as the 'trust-fund' which the species hands down to posterity. Now the chromosomes are not exactly alike, but differ in size, shape and pattern owing to the presence in them from a few to several hundreds of still more minute entities called *genes*. These are the ultimate factors of heredity, the last units of life, and are responsible for the development of our characters both physical and mental. All the complicated processes that take place between the presence of the genes and the appearance of the characters are not as yet fully understood. We do know however that the genes like the chromosomes retain their individuality from generation to generation and occur normally in contrasting (or allelomorphic) pairs, one of which is usually dominant over the other. They do not blend but, when crossed, sort out or segregate, that is, only one of each pair of allelomorphs enters the gamete. Further, the genes assort at random, meaning that the allelomorph of one pair of genes may occur or combine with the allelomorph of any

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other pair in the gamete. Under special circumstances also, certain changes (probably of a chemical nature) take place in the genes themselves, which are potentially capable of being transmitted. These changes or mutations, the nature and causes of which are still little known, may affect one character in varying degrees or a number of different characters.

It will follow from the above that, when two or more strains differing in a number of characters are crossed, many new recombinations or types different from the original strains will be produced. In the case of human beings with thousands of genes in operation, the number of recombinations is likely to be extremely numerous without taking into account the appearance of new characters by mutations. It may seem therefore that any attempt to classify animal, and specially human, types is bound to be futile, as their stability even cannot be guaranteed. Actually however the situation is not so difficult, for in most cases the genes are very stable and the mean rate of mutation of genes in all animals, though varying greatly, is surprisingly low. Secondly, in most of the fundamental morphological and physiological characters of the species, e.g. the backbone or the main organs of the body, the genetic constitution appears to be homozygous and changes do not take place either by recombination or mutation which are likely to interfere with normal development. For the organism is a delicately balanced mechanism and any alteration which is likely to throw it out of gear seldom occurs, and even when such abnormalities or disharmonious and ill-suited combinations do take place they are quickly weeded out by natural selection. In a state of nature therefore, though a large number of types may be produced, the laws in force see to it that only those of the new types or recombinations which properly adjust themselves to the environment survive, the rest being eliminated gradually. In this way nature maintains a kind of balance and helps to perpetuate the healthy development of the species.

Now if we turn to the origin of Man there can be very little doubt that the human stem differentiated from a brachiating arboreal ape of a generalized *Dryopithecus* type

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during the Tertiary times gradually over a long period, and through a series of earlier forms close to the human line. How close was the relationship is shown by the recent finds of Hellmut de Terra, in the Siwalik Hills, of jaws of some members of this family, like the *Ramapithecus*, which not only exhibit the five-cusped pattern of the lower molar teeth common to this group and men, but very closely approach the human characters in the shape of the dental arch, reduction of the canines and absence of gaps. The great living apes on the other hand diverged from the ancestral line by over-specialization in brachiation (swinging by the arms), and by restricting the use of the hands and feet for grasping purposes became better adapted to tree-dwelling habits instead of moving towards the upright human bipedalism with stable supporting feet, suitable for terrestrial life and progress. The evolution of *Homo Sapiens* or the Wise Man, as modern man flatteringly calls himself, was similarly achieved through many transitional types of Palaeanthropic men such as the *Pithecanthropus*, the *Sinanthropus* and the *Eoanthropus* who still retained several apelike features, such as bony brow-ridges and chinless jaws. Their progress was arrested on the threshold of becoming the modern man, and they slowly faded away from the scene either through great climatic changes during the Ice Age, or through their inability to adjust themselves completely to changing conditions. That this differentiation into the present human species was an unitary act in a specially favoured region hardly admits of any doubt, as all its members share the essential human characters which differentiate Man from the other members of the Primate Order and are fertile *inter se*, showing biological unity not possible if they had descended separately from several ancestral types.

Not long after the emergence of Man, dispersal must have taken place. Over-population, the quest for food, internecine wars, or natural forces, drove various bands of men to rove into remote parts of the world. Being subjected to altered conditions of the environment, new mutations arose separating one group from another, the differences being perpetuated by selection and heredity. The primary divisions of

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mankind, e.g. the Negroid, the Mongoloid and the Eurasiatic or the Caucasoid, could only have arisen in this way and they show some geographical correlation even to this day. The changes had not touched the basic traits, in respect of which all members of the human species remain fundamentally alike, but only surface traits which alone show Mendelian separation—such as pigmentation, shape of the hair, nose, face and head, formation of the eye and certain biochemical changes in blood. The genetic barrier between men however broke down in a great measure as a result of migrations and conquests, and men have mixed freely in all parts of the world since the Age of the Glaciers. A large variety of recombinations complicated by additional mutations arose as a consequence and account for the variations now observed, and forge human geography with connecting links through small differentiated graded types from one region into another. Not all the combinations that arose could have survived, the ill-fated or the less adapted ones having perished. It is to these combinations of hereditary traits preserved by selection and common ancestry, distinguishing one group from another, that the term Race is scientifically applicable, though it must be understood that the concept of Race as applied to Man is less rigid than among members of other animal groups who are more completely isolated and interbreed less freely. The classification of human races therefore means only attempts to delimit these groups, using hereditary characters of diagnostic value for purposes of differentiation.

Racial Types in India

The population of the Indian continent viewed in this light would seem to be made up of many strains which entered her territories at one time or another from the older Palaeolithic to the historical periods. Situated however at the southern extremity of the Asiatic mainland, flanked by high mountain ranges on her northern and the upper parts of her western and eastern frontiers, and with the sea separating the shores of the remainder, India geographically formed a naturally protected region into which man could

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move only through gaps in the mountain barriers. One of the results of her topographical conditions was that the races that had come earlier and were in occupation of the country were not destroyed, but pushed south and eastwards and to this day they form some of the main components of the population. Similarly the hills and the forests gave shelter to a large number of primitive tribes who were left comparatively unmolested and had thus better chances of survival, living their own life. Racial types still occurring in the Indian population therefore contain many extremely primitive strains and represent elements from all the main divisions of mankind not found elsewhere to the same extent. These racial groups come from six main races with nine sub-types and are as follows:

1. The Negrito.
2. The Proto-Australoid.
3. The Mongoloid, consisting of:
 - (i) Palae-Mongoloids of (a) long-headed and (b) broad-headed types.
 - (ii) Tibeto-Mongoloids.
4. The Mediterranean, comprising:
 - (i) Palae-Mediterranean
 - (ii) Mediterranean and
 - (iii) the so-called Oriental type.
5. The Western Brachycephals, consisting of:
 - (i) the Alpinoid
 - (ii) the Dinaric, and
 - (iii) the Armenoid.
6. The Nordic.

1 Of these the Negritos appear to be the first-comers and real autochthons of the country. As the name implies, they are diminutive or pigmy members of the Negroid division and probably arose as a result of some of the earliest variations within that division. In common with the members of the group, the chief distinguishing feature is the shape and form of the hair. Instead of straight, wavy or curly hair found in other human races, the hair is separated

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into locks by being twisted either into small or long spirals. The texture of the hair is fine and of a downy or woolly nature. A variant of this kind of hair, seen chiefly among the pigmy or Negrito types, consists of very small, closely set spirals forming into little clumps with vacant intervening spaces, known as 'peppercorn hair'. When a section is made it is found to be oval instead of round as in straight hair. The spiral twist of the hair appears to be due to a pair of genes in addition to those of the ordinary wave or curl of the hair and is dominant over the latter. It is not unlikely that the various forms of spirals, the short closely set, the long, and the peppercorn type are all due to separate hereditary factors and rose as subsidiary mutations within the main Negroid stock. The other characters which distinguish the Negrito are certain infantile features, like pigmy stature, the mean being below 5 feet, small head, bulbous forehead, smooth brow-ridges and feeble chins. Negritos are deeply pigmented but not quite so dark as the true Negroes and the head-form is more variable, round, medium and long heads all occurring. Their limbs are delicate, with arms long in relation to the legs, as contrasted with the tall Negroes whose lower extremities are specially elongated. In some of the Negrito tribes in south-western Africa, such as the Bushmen and Hottentots, certain special features have developed known as steatopygia—great accumulation of fat in the buttocks and upper portion of the back of the thighs of women, similar to deposits of fat in some species of sheep. This seems to be a sex-linked character preserved by sexual selection.

Outside Africa, the Negritos are found in New Guinea, the Philippines, the Malay Peninsula and the Andaman islands. In the mainland of India the type was not detected, though stray cases of frizzly hair were reported from time to time. In recent years,¹ however, a survey of the interior of the hills of Cochin and Travancore revealed the presence of frizzly-haired individuals among the Kadars and Pulayans living in these hills. They probably exist also

¹ B. S. Guha, *Nature* (1928), p. 121; (1929), p. 123.

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among the Irulas and primitive tribes of the Wynaad. At the present time they are not found in any strength but only as remnants of an ancient race pushed into the hills of south-western India where they were partially absorbed by other tribes, but in more isolated inaccessible tracts such as Perambiculum they were segregated and preserved their features. Their head-shape is not round like that of the Andamanese but varies from medium to long. They also differ in possessing long spirals of hair, though short spirals are not altogether wanting. Their skin-colour ranges from dark brown to dark chocolate-brown approaching black. The face is short and protruding and the nose flat and broad. The lips are thick and everted and stature short. (Figs. 1-3.)

In the form of the head and structure of the hair the Indian Negritos resemble the Melanesian pigmies rather than the Andaman islanders, in whom the peppercorn type of hair and steatopygia have been found to occur. How far the Negritos extended over other parts of India in ancient times it is not definitely known, but judging from their presence among the Angami Nagas as reported by Hutton¹ and sporadic occurrences of individuals with spirally-twisted hair among many aboriginal tribes as far north as the Rajmahal Hills,² it is possible that they had a wide distribution at one time and extended far north and eastwards. Some offshoots probably moved into the western parts of the Malay Peninsula and still survive there in the Semangs and Sakais, who have medium head-shapes and have a number of designs in their combs identical with those found among the Kadars.

2 Besides the Negritos, the aboriginal population of Peninsular India contains another primitive element which is widespread and probably arrived soon after. In stature, shape of the head, protrusion of the facial parts, broad flat nose, fleshy everted lips and skin-colour approaching black, the differences between the two are slight. But

¹ J. H. Hutton, *Man in India* (1927), p. 7.

² S. Sarker, *Nature* (1936), p. 37.

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this type retains less of the infantile characters of the forehead and brow-ridges, and the delicate nature of the limbs is not seen. What distinguishes it however most significantly is the absence of frizzly or woolly hair. Its hair is wavy, and even curly in many cases, but the wave or bend is never coiled spirally. This element is closely akin to the Australian tribes but is of a more generalized type and has consequently been termed Proto-Australoid. It is true that in the typical Australian the brow-ridges are extremely stout, the nasal root very sunken, and there is an abundance of bodily hair not usual in the Indian tribes, but there is a large number (especially among such tribes as the Chenchus, Malayans, Kurumbas and Yeruvas of South India and among many members of the Munda, Santal and Kol groups) where these characteristics are also marked. A careful comparison of the tribes of southern India with those of Ceylon, Iodoesia, Melanesia and Australia discloses a regular gradation of these traits from a moderate degree to their most developed form in the last.

It seems probable that the hereditary factors responsible for these characters were carried by the race in general and developed under certain special conditions. If, as it is likely, Australia received her aboriginal population by migration through Ceylon and Melanesia from southern India, where these characters had already evolved, their further development in the open Australian deserts must have been due to isolation and inbreeding. The similarity of blood-group distribution with high percentage of the agglutininogen A between some of the Australian and South Indian tribes lends further support to this view.

However that be, the Proto-Australoid type is the most dominant element at present in the tribal population of southern and central India as well as among semi-hinduized tribes further north. The so-called 'exterior castes' of Hindu society throughout the greater part of the country are also mainly constituted from this racial strain. We have no precise information as to when this race first came into India. It is found among the prehistoric skulls in the Tinnevely district, and from references in early Sanskrit literature to

EXPLANATION OF FIGURES

THE NEGRITO TYPE. 1. Andamanese with short spirals. 2. Kadar of Cochin Hills with short spirals. 3. Kadar of Cochin Hills with long spirals.

THE PROTO-AUSTRALOID TYPE. 4. Pulayan woman of Travancore. 5. Urali woman of Travancore. 6. Baiga from Rewa.

THE PALAE-MONGOLOID TYPE. (i) *Long-headed*. 7. Sema Naga of Assam. 8. Limbu of Nepal. (ii) *Short broad-headed*. 9. Lepcha woman of Kalimpong.

THE TIBETO-MONGOLOID TYPE. 10. Tibetan of Sikkim.

THE PALAE-MEDITERRANEAN TYPE. 11. Tamil Brahmin of Madura. 12. Nair lady of Cochin. 13. Telugu Brahmin of Vizagapatam.

THE MEDITERRANEAN TYPE. 14. Nambudri Brahmin of Cochin. 15. Maratha lady of Indore. 16. Brahmin of Allahabad. 17. Bengali Brahmin girl of Calcutta.

THE ORIENTAL TYPE. 18. Punjabi Chattri of Lahore. 19. Pathan of Bijaur (N.W.F.P.). 20. Nagar Brahmin of Gujarat.

THE ALPO-DINARIC TYPE. 21. Brahui of Baluchistan. 22. Bania Kapol of Bhavnagar (Kathiawar). 23. Bengali Kayastha of Calcutta. 24. Tamil Chetti of Madura.

THE NORDIC TYPE. 25. Kho of Turiko (Chitral). 26. Khalash of Rambur (Chitral Kaffiristan). 27. Red Kaffir of Brihmital (Chitral Kaffiristan).





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'Nishads',¹ where they are described as noseless (*anāsh*) with dark skin-colour and peculiar speech and habits, there can be no doubt that the Proto-Australoid tribes were meant. In Figs. 4-6 this type is illustrated with marked development of the brow-ridges and sunken root of the nose.

3 The Mongoloid race is distinguished from others by very scanty growth of hair on the face and body, general flatness of the facial parts with great prominence of the cheek-bones and rather arrested development of the nasal skeleton. What differentiates this group most strongly however is the peculiar shape of the eye. Among human beings of many races what is called the 'almond-shaped' eye sometimes occurs with a rounded inner and pointed outer opening. The outer opening is also placed on a somewhat higher plane, giving it an oblique shape. This type of eye, though not exclusive to it, is very common among the Mongoloid race. In addition to this trait the Mongoloid eye possesses a loose fold of skin covering the inner canthus (the angle), giving it a half-open, slit-like appearance. These traits are due to separate pairs of allelomorphic genes and have been found to be of dominant character. These peculiarities of the eye-shape, however, are not found to the same extent among all Mongoloid races, some members possessing them in a greater degree than others. They have been observed to occur with marked intensity among the Tibetan and the Chinese, and in some of the races of eastern Siberia such as the Gilyaks, the Tungus and the Yukagirs; the percentages of complete folds being as high as 85, 62 and 60 respectively.

(i) The Mongoloid group in this country contains three racial types of which the *Palae-Mongoloids* are of more primitive nature and do not exhibit the characters so conspicuously. (a) These are characterized by medium stature with a skin-colour varying from dark to light brown. The eyebrow region is not marked and the face is short, with prominent cheek-bones. The nose is medium, but of low elevation and shows the arrested development usual among

¹ R. P. Chanda, *The Indo-Aryan Races* (1916), pp. 4-8.

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Mongoloid groups. The hair is scanty both on the face and the body, and the eye-sockets are slanting. The epicanthic fold is not very marked and usually occurs with lesser frequency. What distinguishes this group from other Mongoloid tribes, however, is the form of the head, which is not round, but varies from a long to a medium shape with the occipital portions bulging outwards—a characteristic peculiar to long-beaded races. This Palae-Mongoloid strain is found in the sub-Himalayan region as the more ancient stratum of the population and forms a dominant element in the tribes living in Assam and the Indo-Burmese frontiers. It extends far into Yunnan and south-eastern China.

The other Palae-Mongoloid type is (b) a short broad-headed element with darker skin-colour and rounder face. Both the obliquity of the eye and the epicanthic fold are more marked in this type. It is of a decidedly less primitive character and occurs chiefly in Burma and in some hill tribes of the Chittagong district, such as the Chakma and the Magh.

(ii) The Mongoloid group which shows the racial characters in the most developed form is undoubtedly the Tibeto-Mongol element, resembling the former in the shape of the head but of a much more advanced type. It is characterized by tall stature with light skin-colour and marked absence of hair. The epicanthic fold is strongly marked and the eye-slits are slanting. The face is not short, but long and flattish. The nose similarly is long but the elevation is low. Like the body, the head is massive and the absolute dimensions of the head are larger than in any other race living in India. This type is found in Sikkim and Bhutan and must have infiltrated from Tibet in comparatively later times.

In Figs. 7-10 the three Mongoloid types are illustrated.

The three racial stems mentioned above, namely the Negrito, the Proto-Australoid and the Mongoloid, with their sub-types, constitute the tribal population living in this country.

4 In addition to the racial elements described above the general population of India contains strains from several progressive races, of which those belonging to the Medi-

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Mediterranean stem—so named from its association with the Mediterranean basin—are the largest. There is not one uniform type of this race but rather a number of closely graded types characterized by the common possession of moderate stature, long head, slightly built body and dark complexion. This group was probably differentiated in the southern steppes of northern Africa and the adjoining Asiatic mainland, and, following the northward movement of the storm-zone at the close of the Ice Age, drifted both westwards and eastwards. We can distinguish three distinct types of this race in India, of which (i) the first and the most ancient one closely resembles the Proto-Egyptian type and may be called Palae-Mediterranean in the absence of a more appropriate name. It may be described as medium-statured, dark-skinned and of slight build. The head is long and narrow and the vault high, with bulbous forehead and projecting occiput. The face is usually narrow but often disharmonious, and the chin pointed but weak. The nose is small, prominent, rather fleshy and moderately broad. There is scant development of hair on both the face and the body. This type must be one of the earliest of the Mediterranean stem to be differentiated, and retains some traits (e.g. deeply pigmented skin, higher cranial vault and proportionately longer legs) found in common with the Negroid races. We have no definite evidence of the first advent of this race to India, but among the human skeletons found in burial jars at Aditanallur and in the cairns of the Deccan, belonging probably to the beginning of the Christian era, it is the prevalent type. It is likely, however, that it arrived much earlier and introduced the Megalithic culture in late Neolithic times. Subsequently it dispersed towards the south to form the dominant type among the Dravidian-speaking peoples. Freiherr von Eickstedt,¹ who led the German-Indian Anthropological Expedition into this country during 1926-9, calls it the Melanoid race, considering it to belong at its basis (though now greatly intermixed) to the Melanesian branch of the Negroid race. He counts the

¹ Von Eickstedt, *Zeits. Morph. Anthr.*, vol. 32 (1933), pp. 92-6.

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20 million Tamilians among its descendants. There seems little justification for this view, for apart from skin-colour, its other traits are not peculiar to the Negroes. It has neither the short spirals of the African Negroes nor the frizzly hair of the Melanesians. Its hair is wavy or curly but never spirally curved except when it possesses some Negrito genes (not uncommon in South India).

We know that skin-colour is caused by the presence of pigments in the epidermis, produced by the action of multiple hereditary factors for the protection of the underlying tissue against the ultra-violet rays of the sun. There is more than one pigment in most races, with not merely quantitative but qualitative differences. The pigment-producing genes, however, act in co-operation with environmental conditions and some degree of alteration in their expression is possible by altering the conditions. It is well known that moderately pigmented people become somewhat lighter after long stay in temperate regions. Similarly they acquire a deeper shade after living in tropical countries. Under the persistent heat of southern India the genes producing dark pigments probably were more stimulated than those producing lighter tints, and the skin-colour of this already-pigmented race might have received a deeper shade in a similar way as the Negroes, without genetic relationship between the two.

(ii) This older and more basic stratum of the Mediterranean group must be distinguished from another closely akin to the European type, which entered this country later, and whose remains have been found in large numbers in the Chalcolithic sites of the Indus valley and further east. It is probable that this was the race responsible for the development of the Indus civilization and subsequently dispersed by the 'Aryan'-speaking Vedic invaders to the Gangetic basin, and, to a smaller extent, beyond the Vindhya. It forms today a dominant element in the population of northern India and an important constituent of the upper section of the people of the rest of the country. This type possesses medium to tall stature and lighter skin-colour, the shade varying from dark to light olive-brown in different parts of the country. The head-shape is also long but the

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cranial vault is lower and the forehead is more arched. The face is long and the chin, though still weak, is better developed. The nose is narrow and prominent and not so fleshy as among the other group. The body is of slender build, but the growth of facial and bodily hair is much more pronounced. The hair and eye-colours are of dark brownish tints leading to black. One of the peculiarities of the Mediterranean race is the presence of extremely large open eyes not found to the same extent in other races. In Figs. 14-17 are given the portraits of four persons, two women and two men from the United Provinces, Bombay, Bengal and Malabar, belonging to this type.

(iii) The third and the latest of the Mediterranean strains to enter India is the so-called Oriental race of Fischer, which is commonly mis-called Semitic from its association with the speakers of that language though not entirely confined to it. It is very close to type (ii) except in the formation of the nose, which is unusually long and often convex—a dominant characteristic, which, combined with inbreeding, accounts for the persistence of nostrility among the Jewish people. The skin-colour is lighter among this race than in any other group of the stock, though in this country darker shades are common. The chief concentration of this race has always been in Asia Minor and Arabia, from where it must have come to India. It is strongest in the Punjab, but throughout Sind, Rajputana and the western United Provinces it is common. In the rest of the country also the type is not unusual (see Figs. 18-20).

5 More than one type of broad-headed races have entered into the composition of the Indian people besides the Tibeto-Mongol strain. They belong respectively to the groups of Western Brachycephals (broad-heads) designated 'Alpines' (from their association with that European region), 'Dinarics' (from the Dinaric Alps which stretch from Dalmatia to Croatia), and Armenoids.

The differentiation of broad-headed races is a comparatively later event in human history. All the early types of which we have any evidence are long-headed. There is

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apparently some correlation of the broad-heads with highlands, from which it has been surmised that the mutations giving rise to them have taken place in mountainous countries, probably somewhere near the Central Asiatic mountain axis, where conditions favourable to the growth of the head in the transverse rather than the longitudinal direction existed. It is likely that more than one mutation took place, one among the Mongoloid races in the Tibetan plateau or further north, and one or more among the Eurasiatic tribes living in the highlands between south-western Siberia and Armenia. Broad-headedness is a dominant character and accounts for the increasing brachycephalization¹ now observed among European races. (i) The characteristics of the Alpine broad-heads are medium stature, rather short, wide head with rounded occiput, round face and prominent nose. The complexion is lighter than that found among the Mediterranean races and there is an abundant growth of hair on the face and the body. The body is thick-set, strongly built and of the typical 'John Bull' type. (ii) In the Dinaric, the stature is taller and the skin-colour somewhat darker, especially the tints of the hair and the eye. The head is not so broad but very short, with flattened vertical occiput. The forehead is rather receding and the cranial vault very high. The face is comparatively long and the nose extremely long and more often convex, with the tip sometimes bending sharply towards the upper lip, giving it a 'hawk' shape. The shape of the occiput and the form of the nose are peculiar features of this race, and in the sub-variety known as (iii) the Armenoid, these are even more marked. In none of these types are the Mongoloid characteristics present; and in fact, in the abundance of hair and development of the nose, the Dinaric and the Armenoid are farthest removed from them.

In Europe, the appearance of the broad-heads synchronizes with the New Stone Age. In India we have no such early testimony of the race, but in the Indus valley during Chalcolithic times, and later in the Iron-Age sites of Tinnevely and Hyderabad, we find the presence of both the

¹ R. B. Dixon, *The Racial History of Man* (1923), pp. 512-13.

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Alpinoid and Dinaric types of heads. The investigations of Bertram Thomas¹ have shown the existence of brachycephalic races in southern Arabia of which the 'Omani' has a flattened occiput. It is likely that these broad-heads drifted along the western littoral from southern Baluchistan through Sind, Kathiawar, Gujarat and Maharashtra into Kannada and Tamilnad and thence into Ceylon, leaving Malabar and Andhra unaffected.

An eastward movement seems to have gone early into the Gangetic delta leaving a distinct trail in Central India, eastern U.P. and Bihar. A subsidiary drift of the Dinaric race probably took place from the north-western Himalayas into western Nepal. It is present all along the region from the Kho and the Burusho of Chitral and Gilgit to several racial groups in Nepal, though somewhat intermixed with a local variant of the Oriental race.

The Dinaric type is well marked in Bengal and Orissa, mixed in varying degrees with the Mediterranean group, and in Kathiawar, the Kannada and the Tamil countries. It occurs in its purest form among the Coorgis. In Gujarat the broad-heads are predominant, but the wider forehead associated with shorter face among the Gujaratis points towards a greater admixture with the Alpinoid element. In Maharashtra it has mixed largely with the long-headed types (see Figs. 21-4).

The Parsis of Bombay are also broad-headed but appear to be more allied to the Armenoid type of Asia Minor than to their Gujarati neighbours, from whom they differ in blood-group distributions. Their blood-groups show resemblances to those of the Syrians and Armenians,² but they are very distinct from the Guebres (the remnants of the old Persian population professing Zoroastrianism, still surviving in Kala Gebri near Teheran), who are all long-headed. It is possible, as Dixon³ suggested, that the Parsi emigrants to Gujarat came from a broad-headed element of the Persian population who

¹ *Arabia Felix*, pp. 301-33.

² E. W. Macfarlane, *American Naturalist* (1942), p. 525.

³ *op. cit.*, p. 310.

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were converted to Zoroastrianism, while their brethren in faith, the Guebres, who remained at home, represented the older racial stock.

6 The last great race-movement into India was associated with the Vedic invaders who belonged undoubtedly to the Northern Steppe folk: moving south-westwards in a great racial wave along with the Kassites, they swept into north-west India somewhere during the second millenium B.C. It is possible that this type was first characterized in the Eurasiatic steppelands, between south-eastern Russia and south-western Siberia, from some of the more powerfully built long-headed races who drifted towards the north-east with the retreat of the ice sheets. In the *kurgans* (burial mounds) of southern Russia and in the Minusinsk region of the Upper Yenisei of the early Bronze Age, skeletons conforming to this type have been found, together with evidence of horse-sacrifice. Chinese chronicles also speak of a tribe called the Yuechi who established the Tokharian state in eastern Turkistan in the centuries preceding the Christian era. They were described as light-skinned and red-haired, and as Tokharian has been found to belong to the *centum* group of the Indo-Aryan languages, closely related to Greek and Latin, the Tokharis or Yuechis can reasonably be supposed to have been Indo-European-speaking people.

Very little archaeological evidence is available regarding the early Indo-European-speaking invaders of India, apart from the finds in the Kurram valley and the Gangetic basin identified by Heine-Geldern as Indo-Aryan and belonging to 1200-1000 B.C. From references in ancient Vedic literature, their northern home, light skins and hair-colours seem indisputable. The human remains recently unearthed at the Dharmarajika monastery at Taxila, which was sacked by the White Huns in the fifth century A.D., are probably attributable to them. They are distinguished from the skulls of other long-headed races so far found in India by larger size (the mean cranial capacity being as high as 1552 c.c.), lower cranial vault, long face and powerfully built jaws. At the present time the type is found very prominently on the

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north-western frontier among the Pathan tribes, mixed with Oriental and Dinaric elements. Among the tribes living in the valleys formed by the Upper Indus and its tributaries the Swat, Panjkora, Kunar and Chitral, it is the dominant type, especially among the Kaffir tribes south of the Hindukush mountains. In the Punjab and Rajputana and among the upper classes of northern India it is also present, but marked by increasing admixture with the older long-headed races of the Mediterranean stock. There is also a sprinkling of it in western India and as far east as Bengal. Among the Chitpavan Brahmins of Maharashtra it is strongly marked, mixed with broad-headed races. The characteristic features of this race are a very powerfully built body and tall stature (not approached by any other race with the exception of the giant Negroes and one or two others), long massive head with arched forehead, and protruding occiput. The eyebrow regions are moderately marked, the face long and the chin strong. The nose is very narrow and straight and the bridge high. What distinguishes this race most noticeably however is the comparative absence of pigment in the outer surface of the body, which gives the skin its so-called flesh colour and to the hair and the eye the much-admired gold-blond and blue tints respectively. (See Figs. 25-7.)

As we have seen, the presence of pigments of different degrees and kinds is due to the operation of multiple hereditary factors which have arisen at different times and places as a result of genetic changes or mutations in response to varying environmental conditions. Just as, under tropical conditions, the black skin of the Negroid races has resulted from the ancestral brown forms, through the deposit of additional quantities of pigment grains, and by the production of darker kinds of pigments, similarly a reverse action in some of the Northern Steppe folks has resulted in the disappearance of pigment grains under the skin by defective variations or deficiency mutations. Why these mutations arose in some races and not in others, such as the Lapps or the Eskimos who also live under temperate conditions, it is difficult to say—possibly the darker pigments were not originally present in them, or for some special physiological reasons which did

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not occur in all. The absence of pigment grains is not uniform, however, and this accounts for the various shades of skin, hair and eye-colours found in some of the Eurasiatic and north European races. The skin may be light brown, white, pale white or 'flesh' coloured, the hair light yellowish, gold-blond, silver-grey or ashen-grey, and the eye light brown, hazel, grey, green or blue. Among the Finns and allied Baltic people the presence of an additional red pigment gives a red or rufus tint to the hair.

Among the races living in south-western Siberia and in the valleys of the north-western Himalayas the process of depigmentation has not gone so far as in northern Europe. Here, though the skin-colour is prevailingly rosy-white, shades of brown and light-brown also occur. In the eye, the most common tints are medium, ranging from light brown to hazel, though an appreciable number are grey-blue and blue. Similarly the hair is usually of a brownish shade though a small percentage of light yellowish and red tints are seen, particularly among the Kati tribes of Kaffiristan. Earlier visitors like Leitner, Biddulph, Ujfalvy and Robertson mentioned 'blond' and 'golden' hair among some of the Hindukush tribes. Even if a few individuals show these tints, it is certain that the prevailing hair and eye colours are darker, and there is a much smaller percentage of the lighter shades than among the north European races; among the Swedes, for instance, the blond type forms 49 per cent of the total population. In the European races likewise there is some correlation between the tints of skin, hair and eye. As however the genes determining the colours of the skin, hair and eye Mendelize (i.e. assort) separately, there cannot be any question of true linkage between them, and their close association is probably due to some conditioning factor which favoured their appearance simultaneously in Europe but which was not operative to the same degree in the Asiatic group. However that may be, the high percentage of blonds in northern Europe may be explained by close inbreeding in the Baltic regions, causing an unusually high rate of this deficiency mutation.

In the tropical conditions of the northern Indian plains

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the lighter skin, hair and eye colours are not suitable, as they afford less protection from the injurious radiations of the sun. Consequently these characters were gradually eliminated by natural selection in the invaders who came from temperate climates. An interesting development therefore took place in these people in India. They retained some characters typical of the race, such as the build of the body, the tall stature, and the long head, but they slowly lost the genes responsible for lighter complexion. That these genes are only masked in many cases is proved by the presence of a small percentage of light-eyed and light-haired people throughout northern India, from the Punjab to Bengal. In the Chitpavan Brahmins of Maharashtra the proportion of light-eyed people is considerable, being almost 10 per cent.¹

The above are the main racial groups which have gone to make up the composition of the Indian people, and though ethnic zones can be demarcated according to the preponderance of the groups, as may be seen from the map inside the cover, it must be clearly understood that no rigid separation is possible as there is considerable overlapping of types. From a broad point of view however a Nordic territory in north-western India, mixed with Mediterraneans and Orientals, can be distinguished from a territory in Peninsular India containing the older Palae-Mediterranean element. On both sides of this are the domains of the Alpo-Dinaries, mixed no doubt with other types. The primitive darker elements have come in everywhere and, with blood from other strains, chiefly Palae-Mediterranean, they constitute the lower stratum of the population. The Mongoloids occupy the submontane regions of the north and the east, but various thrusts from them have gone deeply into the composition of the people.

¹ The Chitpavan Brahmins did not migrate from Palestine as some people with more zeal than knowledge want to prove. They were probably one of the bands of northern invaders who became isolated in the Deccan during the course of their wanderings.

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Racial Groups and Linguistic and Cultural Divisions

The racial groups in India do not coincide with linguistic and cultural divisions. Languages and social customs depend on acquired characteristics and are subject to constant changes. There is, however, a rough parallelism between the geographical distribution of tribes and their linguistic divisions. The Dravidian-speaking people live in the south below the Vindhyas; the central highlands are in the main occupied by the Austric-speaking tribes; the northern valleys of the Indus and the Ganges and the western and eastern portions are populated by Aryan-speaking races. The sub-montane regions on both the northern and eastern peripheries are inhabited by tribes speaking languages belonging to the Tibeto-Chinese family. Within each of these groups there is a diversity of racial types, no one of which can be correlated with the language spoken in that group. For instance, the Dravidian languages are spoken not only by the Negrito Kadars, Pulayans and Irulas whose original tongue we do not know, the Proto-Australoid Chenchus, Malsers and Gonds, but also by the Palae-Mediterranean Tamilians and Andhras and the Alpo-Dinaries of the Carnatic and Coorg. Aryan languages are the mother-tongues of people among whom all the racial types may be counted—the Nordic Red Kaffirs, the Proto-Australoid Bhils and Palae-Mongoloid Gurkhas. The Tibeto-Chinese languages are spoken by Mongoloid tribes belonging to all the racial elements within that division. Similarly the Austric languages belong not only to the Palae-Mongoloid Khasis of Assam but also to the Mundas, Santals and Hos of central India and the Negrito Semang and Sakai of the Malay peninsula. There is therefore no justification for giving a racial meaning to such terms as 'Dravidian' and 'Austric' as Jean Przyluski and some of his followers have done.

Just as it is difficult to find out in every case the racial groups which brought with them the languages now spoken in India, similarly we have not enough material to appraise correctly the contributions of each individual race to the complex fabric of Indian culture. What the Negritos con-

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tributed we do not know, but there is some ground for thinking that the cult of the *figus* tree originated from them. To the Proto-Australoid races may perhaps be attributed a large share of totemistic rites, exorcism, food taboos and magical beliefs still obtaining in Indian life. The ban on commensality and intermarriage which forms the basis of the caste system must also owe its origin to them. The use of silk, tea, rice, paper, terraced cultivation, communal houses, head-hunting and betel-nut culture may be mentioned as the contributions of the Mongoloid races. To one of its branches, namely the Oceanic, we owe also the introduction of the outrigger canoe, the coconut and the pineapple. The Palae-Mediterraneans probably brought pottery, Megalithic culture, with its associated fertility rites and human sacrifice, and it seems likely that they were responsible for introducing matriarchal institutions and the high position of women in peninsular India. The Mediterranean race proper, as far as can be judged, developed the civilization of the Indus valley, and to it we owe the largest content of the present-day Indian religion and culture. Most of the common domestic animals, river transports, garments, the structure of houses, the use of brick, painted pottery and the building of towns are due to them. Astronomy and the Indian script are also their contributions. The particular share of the Alpo-Dinaric races we cannot assess, but if the contention of the late Ramaprasad Chanda be right, then the development of the Bhakti cults and religious emotionalism of Gujarat and Bengal must be attributed to them.

The Nordics brought horses, probably iron and the best variety of wheat, namely the 48-chromosomes group, if (as Vaviloff thinks) it originated in Afghanistan and was introduced into India from there. The use of milk, alcoholic drinks, dicing, chariot racing, and tailored garments were due to them. They introduced patriarchy in Indian social life, but their chief gift was undoubtedly 'the Aryan language'—the most delicate and flexible vehicle of thought. They gave the shape into which the contributions of other races were fitted. Their chief contributions, however, were in the domain of thought rather than in material culture. Epic

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poetry, the concept of Cosmic Order or Rta, lofty ethical ideas and philosophic thought, and abstract natural science were their gifts in the building up of the Indian civilization, and it would be historically wrong and scientifically inaccurate to deny that they have been directly or indirectly responsible for most of the glories of Indian literature, philosophy and art..

Racial Problems in India

The problems affecting the races in India are somewhat different from those of most other countries. The communities separated by distance and by differences of language and culture cannot be welded into a homogeneous body with a common outlook so long as religious and social forces, working in centrifugal direction, remain so powerful and do not permit of a large-scale racial admixture. Our problem is rather to obtain a better balance between the existing elements and pave the way for racial stability and healthy national growth. Speaking broadly, this can be effected in three ways, namely, by giving security and freedom of life to the aboriginal population by obtaining a better balance between the less and more physically and mentally endowed sections of the people, and by gradually eliminating the hereditarily unfit and the mentally deficient.

The aborigines still conforming to tribal customs numbered 20 millions, in round figures, according to the Census of 1931 and, by reason of their distinctiveness and racial and cultural separation from the rest, need special consideration. With them the question is not balancing, but security against the disintegrating forces of civilization. It is neither possible nor desirable to assimilate them into the general population, for such attempts are likely to break up their tribal life and lead to their gradual disappearance as happened in the United States, Australia and Melanesia. Measures of protection to enable them to evolve their own means of adjustment to changing conditions without interference from outside are therefore necessary for their existence. These have to be devised after giving full weight to their institu-

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1. NEGRITOS
2. PROTO-AUSTRALOIDS & NEGROIDS
3. PALAE-MEDITERRANEANS & PROTO-AUSTRALOIDS

1. PALAE-MEDITERRANEANS.
AUSTRALOIDS & ALPO-DINARICS
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3. PROTO-AUSTRALOIDS & ALPO-
DINARICS
4. ALPO-DINARICS, ORIENTALS &
MEDITERRANEANS
5. PALAE-MEDITERRANEANS, ALPO-DINARICS
MEDITERRANEANS, ORIENTALS & PROTO-NORDICS
6. MEDITERRANEANS, ORIENTALS & MEDITERRANEANS
7. PALAE-MEDITERRANEANS, MEDITERRANEANS
& ORIENTALS
8. ORIENTALS AND TIBETO-MONGOLOIDS
9. TIBETO-MONGOLOIDS & PALAE-MONGOLOIDS
10. BROAD-HEADED PALAE-MONGOLOIDS
11. PALAE-MONGOLOIDS
12. PALAE-MEDITERRANEANS & PALAE-MONGOLOIDS

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As 6

SOIL EROSION



**OXFORD PAMPHLETS
ON INDIAN AFFAIRS**



OXFORD PAMPHLETS ON INDIAN AFFAIRS

No. 23

SOIL EROSION

BY

SIR HAROLD GLOVER



HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS

THE cultivated area of India is 330 million acres, and soil erosion is seriously lowering the productivity of about half this area: it is obvious that the prevention of soil erosion is a task of national importance. Man and his animals are the causes of erosion. When the forests are destroyed in the hills where the rivers rise, rain and flood waters sweep down without hindrance and carry vast quantities of soil uselessly into the sea. Overgrazing in the pastures, and in cultivated land faulty methods and imperfect bunding lead to similar results. Among the indirect effects must be reckoned lower rainfall, shortage of water for irrigation and hydro-electric power, sand deposition and silting—all leading to progressive malnutrition and disease. These evils are not incapable of remedy, and the author suggests how long-range regional planning can restore the natural balance. For success, it will be necessary to control the proper management of forests, pastures and cultivated lands.

Sir Harold Glover, B.A. (Oxon) joined the Indian Forest Service in 1903 and served as a Divisional Officer in the Punjab till 1925. In that year he became a Conservator of Forests, and continued to work in the Punjab and the United Provinces. From 1939 until his retirement in 1944 he was Chief Conservator of Forests, Punjab.

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SOIL EROSION

PART I. SOIL EROSION

FOR progress—mental, moral and economic—man, with his domestic animals, must live in harmony with his surroundings. His home must be permanent; his land must be stable; the soil of his fields must be cultivated year by year without loss; permanent pasture must be provided for his animals; and from the forests he must draw timber for his dwellings, fuel to cook his food, and the raw materials of industry.

Man has destroyed the forest, has cultivated fields for a short time on steep slopes until rain-water has swept away the soil; has allowed his flocks and herds without restriction to browse and graze on hillsides until the vegetation has been destroyed and the earth and rock have been laid bare. Over many parts of India the balance of nature has been upset and nature has taken a terrible revenge.

Once at least in every monsoon the newspapers are filled with graphic accounts of floods in Madras, in Bengal or in Bihar, in the Punjab or in the United Provinces, and from time to time suggestions are made for combating the flood menace, for building embankments and for costly engineering works to remedy what is considered to be a natural and inevitable evil. But man's memory is short, and as the winter approaches all is forgotten, or, at the most, a few bunds are constructed which for a few years hold back the waters until in an 'exceptional' monsoon (which occurs with distressing frequency) embankments are broken and the floods pour again without restraint over thousands of acres of cultivated fields, rendering many thousands of helpless villagers homeless. Little thought is given to the forests which formerly clothed the catchment areas of the rivers and acted as a great natural sponge, storing the rain-water

SOIL EROSION

Erosion and the resulting decline in the fertility of the soil are one of the greatest problems facing India today, and it is hoped that the simple facts set forth in this pamphlet will serve to stimulate interest in the preservation of the soil

Top-soil

In the top few inches of the soil are stored the humus, organic matter, chemicals and nutriments which form the food on which a plant feeds. Once this layer of top soil is lost the fertility of the soil is so reduced that it can no longer support vegetation of any but the lowest type. Years must elapse before nature again builds up a fertile top soil.

In cultivated fields the plant food in the top soil is constantly replenished by manure, the loss of which by erosion results in the impoverishment of the soil, under-nourished crops and poor harvests.

Types of Erosion

Throughout India on all sloping ground which is not covered by forest or by permanent hay fields, and where the arable fields are not properly terraced and embanked, erosion of the soil is always going on. In every rain storm soil is washed away from the surface of the ground. This is called *sheet erosion*. As the water drains away channels are formed which cut deeply into the soil, often forming chasms, or ravines, many feet in depth. This is called *gully erosion*.

Sheet erosion Sheet erosion removes the valuable top-soil from all sloping cultivated fields, sometimes slowly and insidiously sometimes during heavy rains rapidly and more obviously, but the result is always the same, namely decreased fertility owing to the loss of the valuable top soil. India is full of examples of fields which have been cultivated for a few years until erosion has caused the soil to become so shallow and sterile that it can no longer grow good crops.

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of the floods in the streams is lessened. The roots of the trees, bushes and herbage are intertwined to form a great net which binds the soil together and keeps it in place. The roots help to make the soil absorbent, while the humic acid formed by the decay of vegetation penetrates the rocks and enters into chemical reaction with the minerals, making them available as plant food. Numbers of worms, insects, minute organisms and animalculæ feed on the humus and tunnel in the soil, thus making it suitable as a food for plants. Their function is to form top-soil in which nourishment is stored. The trees, bushes, herbage and grass of the forest support a number of animals, birds and insects which feed on the vegetation or on each other, the whole forming a complex association which has persisted without marked change from time immemorial, and is an asset of incalculable value to mankind.

Pastures. Permanent grass affords less protection to the soil, but has an effect comparable with that of forest in that the actual erosion of the soil is checked. The absorption of rain-water is by no means so perfect as in a natural forest, but the protection afforded by the grass is generally sufficient to hold the soil in place. A properly managed, lightly grazed pasture might form a permanent protection to the soil, but in actual fact there is no such thing as light grazing in India nor has any attempt been made to regulate the incidence of grazing on any other than a small scale, which has had no effect on the general condition of pasture throughout the country.

The alternation of wet with dry seasons when the grass ceases to grow means that in the protracted dry periods which follow the monsoon the cattle never have enough to eat and the grass suffers accordingly.

Fields. All irrigated fields are terraced and embanked and are permanent, and the rice-lands of Bengal and Madras have been cultivated for centuries without apparent loss of

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fertility. Far otherwise is the case over the greater part of peninsular India and in the sloping lands in front of the Himalayas, where the fields are unirrigated and are only roughly terraced, if at all. The climate is such that long periods of drought precede and follow the monsoon rains, with the result that the fields lie fallow for considerable periods after harvest. While the crops are growing, sufficient protection is usually afforded to the soil, but when, as often happens, there are sudden thunderstorms while the fields are bare there is a tremendous loss of soil. It is not possible for the fields to be covered with crops throughout the year as the climate is not suitable, and the loss of soil can only be checked or prevented by contour bunding and terracing, as will be described later.

The Causes of Erosion

Man and his animals, and particularly his pastoral flocks and herds, destroy the vegetation. The bare soil remaining is no longer able to withstand the impact of storm-water, which pours over its surface and erodes it.

The destruction of the forests. In a primitive community forests form an obstacle to progress, and are burnt with the object of clearing the land for cultivation or for pasture. There has been a constant recession of the forest since ancient times. The peace and prosperity which followed the British occupation of India brought about a great increase in population and a great increase in cultivation at the expense of the forests. So great was the destruction throughout India that in 1855 the Government drew up rules and regulations to preserve forests in the hills. When these regulations proved ineffective a special Forest Act was passed in 1878 and the forests which covered the more important catchments of the rivers, or which contained valuable timber trees, were demarcated and preserved. The forests

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so reserved were protected from fire and certain harmful practices were forbidden; particularly shifting cultivation. Provision was made for the exercise of rights of user by the local villagers, and where the rights admitted were reasonable and not too heavy, the forests are in excellent condition today. Unfortunately such forests form only a small proportion of the total area that requires protection.

Grazing rights. In many forests excessive rights to grazing were admitted, not only to resident cultivators but to professional graziers. Their flocks of sheep and goats and herds of buffaloes have done immense harm, particularly in the western Himalayas and the foothills. The animals have increased out of all proportion to the numbers which existed previous to the British occupation, and now are far more than the forests can support. Graziers are permitted to lop trees for fodder provided that the trees are not lopped to death; but in practice the trees are lopped right to the top. Sometimes only a few trees and bushes have survived, and the surface covering of the soil has disappeared, the earth has been washed away, the underlying rock has been exposed, and there is now nothing to impede the flow of water over the surface of the ground.

Shifting cultivation. Formerly shifting cultivation was universally practised, and resulted in the honeycombing of valuable forest with patches of temporary cultivation. It is still common practice outside the reserved forests in some parts of the country, particularly in Assam and the hill tracts of Bengal.

The trees and bushes are cut and burnt, the ground is lightly ploughed and seed is scattered and raked into the soil, which is immensely fertile owing to the wood ashes and accumulated humus. Where the slopes are at all considerable the top-soil is soon washed away by the heavy monsoon rains, and in two or three years the crops are so poor as not

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to repay the labour of cultivation. A fresh patch of forest is chosen and burnt and the first plot is abandoned. This harmful practice, called *jhum* in Assam and *kumri* in Kanara, caused so much devastation that from the sixties of the last century onwards it was stopped in the more valuable timber forests and in most of the forests which covered important catchment areas.

Village forests. Where rights were numerous large tracts of forest were excluded from the reserves and were set aside for the use of the people. A primitive forest community requires and exercises various rights and privileges in the forests, such as rights to timber, fuel, grass, grazing, leaves, fodder and medicinal herbs. Where the population is small the exercise of these rights does little harm to the forest, particularly where they are limited to the agricultural needs of the population and their use is regulated under working plans. Unfortunately the rights have been grossly abused. No provision was made to perpetuate the village forests, and usually they were not placed under the direct or indirect control of the Forest Department, which alone has sufficient experience of forest management. Unrestricted grazing and browsing of local animals, often accompanied by seasonal grazing of nomadic herds of buffaloes and flocks of sheep and goats, have destroyed the greater proportion of these forests. Throughout India the village forest is rapidly vanishing and already there has been a great increase in soil erosion. Some Provincial Governments, as will be described later, have recently made attempts to create properly managed village forests out of the village waste, but these forests form only a very small proportion of the whole country.

Deterioration of the village pastures. India possesses more than one-quarter of the bovine population of the world, 207 million out of a total world population of about 700 million head, and yet India possesses only one-thirtieth of the

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Earth's land surface. In addition to cows and buffaloes there are 118 million other animals of which the majority are sheep and goats.¹ The ordinary village cows, which are kept for their manure rather than for milk, and for religious reasons are sacred to all Hindus, are turned out to graze in the village pastures and on the fields after the crops have been cut. During the long periods of drought and intense heat the grass suffers severely. The pastures are overgrazed, the better species of grasses are devoured and rooted out by hungry cattle, and no longer do the pastures contain valuable fodder grasses, the place of which has been taken by useless *lambh* grass (*Aristida depressa*), various grasses of low nutrition value, and by unpalatable bushes which alone are able to persist in the face of the very heavy grazing. Most village pastures are pastures only in name, and serve mainly as an exercise ground for cattle, and year by year the soil is eroded away until the land becomes a dreary waste. More and more animals are kept and there is less and less for them to eat. It is small wonder then that the village cows are poor, thriftless beasts with a phenomenally low milk yield.

Lantana, an exotic bush introduced originally as a garden plant, flourishes on degraded pastures where the rainfall is favourable, and is a perfect curse to the grazier because it is poisonous and has replaced the original vegetation.

Faulty methods of cultivation. With the exception of the broad alluvial plains of the Ganges and Indus, the deltas of the rivers and the narrow coastal belt of southern India, the surface of the land is sloping. Sometimes the slope is scarcely perceptible, generally it is moderate, but frequently, especially in the Himalayas and their foothills and in the Nilgiris, the slopes are very steep indeed.

When virgin land is ploughed the naked soil is exposed to the rain. The loss of the fertile top-soil of the fields is

¹ *Atlas of India*, Oxford Pamphlet on Indian Affairs No. 16.

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enormous, particularly on the steeper slopes, and the crops produced grow poorer and poorer in each succeeding year until the land soon becomes unculturable and is left fallow, gradually to be covered with very thin grass or low-grade forest. Erosion is not confined to the fields, as sometimes landslips are started and stone scree is formed on the slopes below. One of the most wasteful methods of cultivation that leads to an abnormal and very rapid loss of soil is that employed in potato cultivation in the Himalayas and the Nilgiris, where the rows run straight up and down hill; elsewhere the fields are ploughed without regard to the prevailing slope, and soil is lost which might have been preserved by ploughing along the contours.

Only the better and more easily manured fields near the villages, particularly the rice fields, are properly terraced and levelled, and represent the results of many years of unremitting toil. To the outlying lands far less attention is paid, particularly where they are not cultivated by the owners but are let on temporary leases to tenants-at-will, who care little for the stability and permanence of the fields.

One of the principal causes of erosion of cultivated lands is this failure to terrace and embank the fields. The result is that the rain, falling on the unprotected soil, pours down the slopes, gathering speed as it proceeds until it sweeps away the soil from the terraced fields below. Huge weirs, broken bunds and ruined fields in the Rawalpindi Division of the Punjab bear witness both to the industry of individual zamindars and to the failure of their neighbours to act in co-operation with them and terrace every field within the catchment area.

In peninsular India, where the rock lies nearer the surface, most of the soil was washed away from the ridges many years ago, soon after the forests disappeared, and the soil of the outlying fields is thin and of low fertility. Contour bunding is being encouraged in order to retain the soil in its proper place.

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Faulty methods of cultivation and the ploughing of unstable slopes have resulted in millions of tons of the most fertile soil of India being carried down the rivers and deposited uselessly in the sea.

Some of the Indirect Effects of Disforestation and Soil Erosion

A lower rainfall. The day temperature within a forest is lower than outside; but when the trees disappear the sun heats up the rocks and bare earth, with the result that the hot air rises and forces up the clouds which no longer drop their moisture in the form of rain, and the country becomes drier than when it was covered with forest.

Game decreases. The Indian forests have always been famous for the number and variety of their game animals, the tiger, buffalo, bison, sambhar, and other kinds of deer. In former years big game was abundant everywhere, but with the thinning out of the forests, and fires, the animals have vanished from the more accessible village forests and have retreated to remote forest reserves where they are specially protected.

Threat to communications. Roads and railways in the hills are blocked each year by landslides, and communications are frequently interrupted. In the plains floods in the rivers often threaten the railways. In 1942 the railway line was breached by floods in the Indus river, Quetta was completely cut off and it took months to repair the railway. In the Ganges basin the main railway line was breached in 1943 by floods, and all trains to Calcutta had to be diverted by a roundabout route. From 1878 onwards the Beas river has

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great expense. The threat to communications is ever greatest in the summer monsoon and is undoubtedly greatly increased by reason of erosion in the hills.

Shortage of irrigation water and hydro-electric power. It has been seen how the disappearance of the forests has been followed by serious monsoon floods. A necessary consequence is the shortage of water in the canals during the cold weather. The Indo-Gangetic plain is irrigated by canals which are fed by the rivers which emerge from the Himalayas. When the snow melts and when the monsoon rains fall these rivers are full and there is abundance of water for the crops; but in the autumn, winter and early spring when the vast plains are covered with wheat there is never enough water to satisfy the farmer, and one reason for this shortage is the disappearance of the large natural reservoirs formed by the forests which formerly clothed the Himalayas. In one big hydro-electric catchment area—the Uhl Valley of the Punjab—the engineers have asked for the complete restoration of the forest in order to conserve and increase the winter supply of water. Some idea of the commercial value of the water can be gathered from the engineers' assessment of Rs. 45,000 as the annual value to them of each additional cubic foot per second of water which flows down the Uhl river during the winter when the demand for electric power is at its greatest and the water in the river is at its lowest. A hundred thousand sheep and goats have been evicted and the owners have been compensated generously.

The lowering of the subsoil water-level. Of late years there has been a very serious fall in the subsoil water-level in front of the Siwaliks in the districts of Hoshiarpur and Jullundur. Punjab irrigation engineers have examined every possible cause and have come to the conclusion that a contributory, if not in fact the main, reason for the lowering of the water-table is disforestation in the Siwaliks.

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Sand deposition. The classic example of sand deposition is the Hoshiarpur district of the Punjab where, directly after the Siwalik Hills had been denuded, torrents of sand poured over and destroyed hundreds of thousands of fertile cultivated fields in the plains. In other districts the denudation of the hills has been followed by similar devastation, and the destruction still goes on. Fortunate indeed are the United Provinces which have preserved and protected the forests of the Dehra Dun and Saharanpur Siwaliks, and consequently have no serious problem of soil conservation in these districts.

Wind erosion. Wind causes the sand of the eroded fields to drift and collect in dunes from which it is cooastantly blown into the air. These dunes advance and cover neighbouring fields in the dry tracts of Bikaner, Bahawalpur and Hissar. In the Indus valley recent disforestation in the Thal has allowed the wind to blow the top-soil away. The cure is the restoration and protection of the oatural vegetation, but that is not easy. Where the climate is favourable the zamindars plant *sarkana* grass (*Saccharum munja*) which fixes the sand. On the sea coast the wind-driven sand is apt to advance inland, but its progress is arrested by the casuarina plantations of Kanara, Malabar, Puri and the Coromandel coast, by groves of coconut palms and cashew trees.

Silting of reservoirs. In central and southern India dams, often of great size, are built across rivers and drainage channels in order to store water for irrigation or for electric power. The catchment areas are often well afforested, with the result that little has been heard of the silting up of the reservoirs. Far different is the case in the United States of America, where already the length of the useful life of reservoirs has been reduced, by silting, to half that which the engineers had calculated. In the Punjab proposals have been made to dam the Himalayan rivers, but the engineers

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are faced with the problem of silt from the denuded soil of the catchment areas.

A lower standard of living. Erosion of the soil is inevitably followed by a lowering in the standard of living. The fields yield less or go out of cultivation entirely, the pastures deteriorate. This scarcity of fodder is one of the main reasons for the low quality of the village cow and for a very low milk yield. From the forests timber, fuel and medicinal herbs, formerly abundant, are no longer available. The men wander far afield in search of work. Malnutrition and disease are alarmingly prevalent in large areas of the Himalayas and their foothills. From the eroded hills of the Punjab thousands enlist in the Army, and if it were not for the pay and pensions which nearly every household receives the only solution to the economic problem which has been produced by soil erosion and overpopulation would be mass migration. Indeed this happened recently in the Middle West of the U.S.A. where fresh homes had to be found for 70,000 people owing to the erosion and desiccation of the soil of their farms.

PART II. SOIL CONSERVATION

The subcontinent of India is so large and conditions are so diverse that it is necessary to consider each of the major subdivisions separately. Only such factors will be described as have a direct and important bearing on soil erosion and conservation. The reader who desires more information is referred to three admirable pamphlets in this series—*Atlas of India* by Dr A. M. Lorenzo (No. 16), *The Food Supply* by Dr Radhakamal Mukerjee (No. 8), and *The Land and its Problems* by Sir T. Vijayaraghavacharya (No. 9).

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The Pressure of the People on the Land

In the territories most affected by soil erosion the pressure of the population on the land is very great indeed; there is sometimes an incidence of 1,000 persons per square mile of cultivation. The average size of the individual cultivated holding is frequently less than one acre. Throughout the hill tracts the food produced is insufficient, or only just sufficient, to support the people, who consequently supplement their resources by keeping flocks of sheep and goats which graze in the waste. It is not to be wondered at that the pastures are overgrazed and have sadly deteriorated.

Peninsular India

Geology. Peninsular India consists of a plateau of crystalline rocks which are the stubs of ancient mountain ranges, some of which rise above the general level of the country. There is a narrow coastal belt, which is broader on the east than on the west. Geologically the country is an extensive eroded peneplain, which assumed its present shape long before the seismic changes which resulted in the uplift of the Himalayas. The rocks are of immense geological age and most of them are hard and decompose only very slowly, with the result that the soil is thin except in the bottoms of the valleys, or where it has been preserved by forests. The beds of the streams lie on rock, and are not deepened rapidly by water action. The main structure of the land has not changed during historical times, in spite of the fact that there have been marked changes in the vegetation which have led to the loss of surface soil by sheet erosion.

Climate. The climate is sub-tropical, and is a monsoon climate with long periods of drought separated by periods of concentrated rainfall. In north central India the summer temperatures are high and there is a marked difference

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Between the seasons, in contrast to South India where there is little variation throughout the year.

On the Western Ghats the annual rainfall varies from 120 inches on the coast to over 300 inches at Castle Rock; in the Nilgiris the rainfall is about 65 to 80 inches, but over the central plateau the rainfall is far less. In some parts the annual rainfall is as low as 10 inches, but usually it is in the neighbourhood of 28 inches, most of the rain falling during the summer monsoon.

The reserved forests. Forests formerly covered the land, and differed in type from the dense evergreen and bamboo forests of the Western Ghats to the thin thorn and scrub forests of central India. The forests of some of the important catchment areas and those in which the preservation of especially valuable timber trees was essential were formed into reserves and are managed by the expert agency of Government or State Forest Departments. In the unfortunately small proportion not encumbered with grazing rights, these forests are a perfect protection from erosion.

The minor forests. In all provinces, and in most States, minor forests were set aside for the use of the people. For the more important of these forests rules were drawn up which regulated the removal of forest produce by the people. Ordinarily the grants of trees for local use are made by the Collector and the Revenue Staff, but there is little effective control. The forests for the most part are honeycombed with cultivation, trees are lopped for fodder, and grazing and browsing are heavy. The minor forests are never in a satisfactory condition and provide only a very poor check on erosion. Those near large centres of population have vanished and often are stony wastes, as at Bezvada, in the lower Eastern Ghats, and in much of the Deccan, whilst everywhere the village forests have sadly deteriorated.

Village forest management. In Madras large areas of minor

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forests were recently removed from Forest Department control and were handed over to the village communities for management under the Collector. The results have been unsatisfactory, except in a few instances where the villagers have united for joint management of the forest estate.

Something in the nature of co-operative forest management by the village forest committee under the expert guidance and control of forest officers is required.

The common village pasturer. At one time or another most of the land outside the forests which was capable of bearing crops has been cultivated, with the result that the pastures where the village cattle are grazed together are confined to the slopes where the soil is thin, rocky and dry, with scattered trees, such as *dhak* (*Butea frondosa*), *khair* (*Acacia catechu*), *beri* (*Zizyphus jujuba*) and thorny bushes. Many pastures are filled with lantana and are useless.

During and shortly after the summer monsoon the common pastures are covered with a dense crop of grass and the cattle fatten, but soon the grass is consumed and every blade is eaten. Improvement in the pastures is impossible with the present grazing incidence, and a reduction in the number of animals is essential. Stall feeding and closure of portions of the grazing grounds in rotation must be substituted for promiscuous grazing. Fortunately experience elsewhere has shown that with closure to grazing the better fodder grasses increase and oust the useless grasses. Propaganda and demonstrations are required in order that the villager shall realize this; and the village economy must be so readjusted as to ensure that the pastures are better managed. The farmer needs cattle for manure, for ploughing, for transport, for lifting water from the wells, for threshing and for every kind of agricultural work, as well as milking cows and buffaloes. Already draught animals and those used for ploughing and drawing water from the wells are stall-fed,

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as are the buffaloes and cows kept for milk. Undersized animals, such as are produced when herds roam in the waste, are of little value; fewer, better and stronger animals must be kept, and fodder must be cut and stored for their use.

Arable fields. Wherever the soil is of sufficient depth, particularly where well or canal water is available, the land is cultivated for field crops. These consist of rice, wheat, cotton and sugarcane in the irrigated areas; on the unirrigated fields grow various millets, such as *jowar* and *kodar*, of which the stalks are cut and stored and fed to the cattle. In some places, as in Travancore State, the fields are well terraced. The rice-fields are always perfectly terraced and embanked, and are stable; so are the fields which are irrigated from wells or from the artificial lakes formed by the ponding up of river basins behind artificial dams. Elsewhere the unirrigated fields are generally not terraced; or if so, the terracing is very roughly done and the fields have not been levelled or properly embanked to retain the rain-water; the terracing and bunding are so incomplete that the soil has been rendered shallow by long-continued sheet erosion. In years of plentiful rainfall the *barani* or unirrigated crops are fair to good, but in years of drought the crops fail either partially or wholly and often there is famine in the land.

The Bombay experiment. The recurring famines in Bijapur and the Deccan have caused much concern to the Bombay Government, which has devoted a sum of three-quarters of a crore of rupees to their restoration. Small and inexpensive bunds are built in the fields along the contours, with the object of arresting the removal of the soil by sheet erosion, and of retaining the rain-water on the field on which it falls. Stone dams or weirs are built across the nullahs. It is hoped that the water-level in the wells will rise and that more water will be available for the crops.

Not only is there a shortage of grain and fodder but also

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of firewood, as in most villages the forest disappeared completely many years ago, and its place has been taken by a stony waste capable of supporting only a very few goats or scrub cattle.

Along the contours of the barren slopes long trenches are dug to trap the rain-water, on the berms of which seeds of useful trees are sown. Closure to grazing has already resulted in the growth of good grasses and the improvement in the indigenous vegetation will serve to stabilize the soil.

Estates in the Nilgiris. Tea and coffee planters in the Nilgiris have long realized the loss of soil by erosion, and have levelled and terraced their gardens as far as they are able. They have also grown cover crops to protect the soil. In the Madras Government pyrethrum plantations strips of natural vegetation have been left along contours at intervals of 24 feet in order to prevent the soil from being eroded. It is hoped that villagers will copy the Government's example, as much soil is being lost from untterraced fields on steep slopes.

The Plains of the Ganges and the Indus River Basins

Between peninsular India and the Himalayas lie the basins of the Ganges and the Indus rivers and their tributaries which run through vast cultivated plains. The irrigated lands of the Ganges support one of the densest populations in the world: the climate is warm and moist and rice has been cultivated since the dawn of history. The plains of the Gangetic basin are liable to floods which derive their origin in the Himalayas. The violence of the Damodar floods is due to recent deforestation in the Chota Nagpur hills, and the cure is re-afforestation.

The Indus drains a dry level tract of low rainfall, which in the south-west is less than five inches per annum, and cultivation without irrigation is impossible. During the last

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dense growth of grass, amongst which grew bushes and thorny shrubs, while gradually tree species of the old indigenous forest appeared. This vegetation held the soil together and made it stable, and foresters realized that where trees could not be grown grass could be relied on as a very efficient substitute in the prevention of erosion, and was preferable to expensive trenches, dams and revetments.

The cultivated uplands of the Punjab and trans-Indus.
In the Indus basin are vast stretches of cultivated, gently sloping uplands of alluvial soil which are drained by the Indus and Jhelum rivers and their tributaries which lie much below the general level of the country. The edges of these plateaux are fretted with ravines which extend far back into the cultivated fields. Wherever the fields have not been levelled, terraced and embanked, the valuable top-soil is washed away and after a few heavy storms the fields become full of gullies and are not worth cultivating. The rainfall is low and ill distributed, as two-thirds falls in the summer monsoon. In the winter there is just sufficient rain for wheat to grow if all of it is conserved and made to remain on the field in which it falls. This is done by levelling and terracing each field and surrounding it with a peripheral ridge, or bund, which ponds up the rain-water and constrains it to sink into the soil.

The fields are ploughed after every shower of rain, as often as twelve to fifteen times in the year, in order to conserve the moisture in the soil. Occasional thunderstorms in April and May do much more harm than good, and where the land is not level and where the fields have not been embanked the water pours over the surface of the soil in a flood which destroys the terraced fields below. The remedy is the complete terracing and embanking of the whole catchment area, and the provision of drains and weirs for the escape of surplus storm-water. Where the cultivators

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are small-holders they are organized into co-operative land reclamation societies to which the Government makes grants of money for weirs and dams which the villagers cannot afford. Drainage of excess storm-water is most important, as if there are no regular escapes for storm-water the bunds are broken and fields are destroyed, as has happened time and again in the past. The land requires capital which is provided by *taccavi* loans and Government grants to approved co-operative land reclamation societies.

West of the Indus the rainfall decreases to less than ten inches a year and cultivation is impossible unless every drop of water is utilized. In the broad valleys within the hills substantial stone walls are erected, and when floods occur in the nullahs the silt-laden waters are ponded up behind these walls, silt is deposited and in a few years fields of great fertility are formed which are irrigated whenever there is water in the nullahs, which are dry for the greater part of the year.

The rain-water which falls on the hillsides is led along channels to level terraced fields which are embanked in order to retain the rain-water which alone makes cultivation possible. Frequently attempts are made to form fresh fields by ponding up storm-water by means of stone or earthen dams which completely block the valleys, and behind which silt is deposited to form fields of great fertility. Some of these dams are of considerable size and strength and are furnished with proper escapes for regulating the height of the flood water and large permanent fields are formed. More often the dams are of insufficient strength to withstand the force of heavy floods, and are broken after a few years' use.

The conservation of rain- and storm-water for cultivation is well understood, but the provision of adequate drainage for storm-water is usually neglected, and Government help and advice are required.

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The Himalayas and their Footbills

To the north of the Gangetic plain lies the immense mountain chain of the Himalayas, rising steeply from the plains, range behind range, to form a complete barrier between India and Tibet. The rocks consist largely of granite, gneiss and schists, shales, quartzites and strata which often have been so metamorphosed as to have lost all trace of their sedimentary origin. Parallel to and to the south of the Himalayas is the Siwalik Range which consists of boulders, gravels, sands and clays eroded from the rocks of the Himalayas during the course of earth movements which resulted in their uplift. The Himalayas and the Siwaliks are of comparatively recent geological origin and the Himalayas are still subject to pressure and strain as is shown by the earthquakes which occur with great violence and comparative frequency.

The summer temperatures of the lower hills are high and the lower valleys are intensely hot; but as elevation increases the climate becomes cool and very pleasant. The rainfall increases with elevation and is much greater in the east than in the west. The south-west monsoon rains are heavy on the outer ranges and towards the east; but the clouds drop most of their moisture before they pass over the higher ranges, with the result that the innermost hills are dry and barren. Very arid conditions prevail in the extreme west.

The Indus, the Sutlej and the Brahmaputra rise beyond the main axis of the Himalayas in Tibet; otherwise the catchment areas of the great rivers lie entirely on the southern slopes of the Himalayas.

The eastern Himalayas and the foothills. The eastern Himalayas and their foothills are well afforested; but erosion caused by disforestation and shifting cultivation after burning patches of the forest is severe in northern Bengal and Assam, where the rainfall is very heavy (70 to 200 inches)

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In the Himalayas considerable areas of forest were demarcated sixty years ago, and parts of the catchment areas of the rivers are well protected. But such extensive rights to grazing were admitted that some of the protected forests are forests only in name and have disappeared or are disappearing. The forests set aside for the use of the people have deteriorated to such an extent that they no longer serve the needs of the people.

The Hoshiarpur Siwaliks. Directly after the British occupation of the country in the middle of the last century the forests of the Siwalik Hills were included in the village common land and were felled, overgrazed and destroyed.

The Siwalik Hills consist of boulder beds, soft sandstones, clays and sands which are very unstable once the protection afforded by vegetation has been removed. From these bare and barren bills, sand has been carried by torrents into the Hoshiarpur District and has buried or destroyed thousands and thousands of its intensively cultivated fields. Erosion reached its peak in 1895, when the damage was so serious as to call for special action by the Government, which enacted the special *Chos* Prevention Act (1900), and evicted all sheep and goats from the forests and regulated the grazing of cattle.

The administration of this Act was entrusted to the Collector and the Revenue staff, occasionally assisted by a Forest Officer, and although a good deal of improvement took place the sand was still carried in streams to the plains. Later on the Forest Department became responsible for soil conservation.

It was soon realized that closure to grazing by sheep and goats was not sufficient and that the cattle must be kept out also before the forest could properly protect the soil. Some villagers agreed to this closure and substituted stall-feeding for grazing, and co-operative village forest societies were

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earthen dams, in which silt settles; but this practice is not generally encouraged as forest is equally valuable and has the advantage of confining the torrent within a narrow permanent channel.

The Kangra village forest experiment. The Kangra district of the Punjab lies on the outer edge of the Himalayas in front of the huge rampart of the Dhaul Dhar range of mountains, of which the peaks tower to heights of over 17,000 feet. The main valley lies at the foot of this range and consists of small hills and valleys in which patches of cultivation, often of considerable extent, are scattered through the forests and pastures. A comparatively small proportion of the forest was demarcated as forest reserve owned directly by the Government, very extensive rights were given in the demarcated protected forests, while the far greater proportion of the forest was not demarcated and was subject to hardly any control. The forests are disappearing, with the result that erosion of the soil is serious.

To add to the complications and difficulties of management the soil on which the forests stood was declared to be the property of the people. By 1938 relations had become so strained, and erosion was so serious, that the Punjab Government, on the advice of a Forest Commission which had been appointed to bear the grievances of the people, determined to try a new policy. The Government decided to form village forest estates from the reserves, the protected forests and the village waste, and to surrender the revenue therefrom, provided that the people agreed to manage the forests according to working plans which arrange for the prevention of soil erosion, that the appointment of the village Forest Officer should be subject to the approval of the Government, that the village forest should be inspected at intervals by the Government Forest Officer and his advice acted upon.

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At first the villagers were suspicious, and, to begin with, progress in forming village forests was slow; but already, as a result of continued propaganda by the Co-operative, Forest and Civil Departments, village co-operative forest societies have been formed for the management of 66,000 acres of village forests. Protection has greatly improved, and the villagers now take a pride in their forests instead of regarding them as a nuisance, and this great experiment in the democratization of forest management promises to be most successful. Progress is hampered by the chronic shortage of trained forest staff which cannot deal with the numerous applications that are received.

Action taken by Provincial Governments

The United Provinces has an Afforestation Division which was constituted many years ago, and after the war soil conservation will be taken up in earnest. In other provinces the harmful effects of erosion have lately caused much concern. The Bombay Government has formed a special soil conservation branch of the Agricultural Department; the North-West Frontier Government has, during the last year, sent a special party of forest officers to study Punjab soil conservation methods, the Baluchistan Government has arranged for a Forest Officer to study and report on soil erosion. The Kashmir and the Chamba States have recently begun to pay attention to soil conservation.

The Punjab. In 1939 the Punjab Government created a Soil Conservation Circle in the Punjab Forest Department which operates in the more heavily eroded tracts in and in front of the Himalayas.

The policy is to restore natural conditions, which permit vegetation to protect the land and hold the soil in place; to improve faulty methods of cultivation; to conserve water for the crops and to drain away surplus storm-water.

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Masonry works are confined to field outlets and to weirs along the main lines of drainage of the fields.

The Government could not possibly afford to finance the high cost of terracing the fields and reclaiming the land, and although it can contribute towards the cost the labour must be provided mostly by the people themselves.

The first essential for the successful carrying out of a progressive soil conservation policy is that it shall be appreciated by the majority of the people.

Constant propaganda is required, as it is only when the general body of the people are convinced of the seriousness of the menace of soil erosion that anything effective is done. The officers of the circle are in the closest contact with the villagers, are experts in propaganda and are able to explain to the people the need for conserving the forests, for regulating the grazing and for improving the methods of cultivation. Articles are published in the press in English and in local languages; numbers of photographs of eroded lands are displayed; special tours are made in the villages, when lectures are given which are followed by endless informal talks; demonstration models of soil erosion are made; posters are prepared; short lessons are given in the village schools; and soil erosion forms an essential part of the Rural Uplift programme. Interest is awakened amongst all classes in the province.

The conservation of the soil is the concern of all who are responsible for the welfare of the District, particularly the Collector and his staff. The soil conservation officers keep in touch with the Revenue, Agricultural, Veterinary and Co-operative Department officers of the District, and with all who are concerned with the use of the land and the development of the resources of the countryside. The Co-operative Department, with its wide experience of rural conditions and business organization, has proved to be of the greatest value in founding and controlling village forest and

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soil conservation societies. Lately the Panchayat Department has been of help.

It is desirable to prepare regional plans for each considerable catchment area, in which the estate is treated as one composite whole, and the proper management of the forests, the pastures and the cultivated lands is suggested or prescribed. These suggestions form the basis of long-term planning, as the reconditioning of the land is a long process, particularly when, as at present, the men are serving in the army in every theatre of war.

Summary

The causes of soil erosion are the destruction of the forests and of the vegetative covering of the soil, which is due to an excessive increase in the numbers of domestic animals and pastoral flocks and herds, and to improper cultivation without due consideration to the stability of the soil.

The cure of soil erosion is the restoration of the vegetation so as to protect the soil from the erosive action of water and wind, and this is secured by the afforestation of the upper catchment areas of the rivers and the proper and sustained management of both the reserves and the village forests; by the limitation of flocks and herds to the numbers of animals which the vegetation can support; by the substitution of stall feeding and proper pasture management for promiscuous grazing; by better agricultural practices, which by terracing, levelling and contour bunding prevent the loss of the top-soil by sheet erosion and conserve the rain-water; by the drainage of surplus water.

When the natural balance which man has disturbed has been restored, then and then only will the soil be rendered stable, and man and his animals will live in harmony with their surroundings.

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THE HEALTH OF INDIA

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No. 12

THE HEALTH OF INDIA

BY

JOHN B. GRANT



HUMPHREY MILFORD
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THE health of a community depends upon its standard of living, its education, and the organized public health services designed to prevent disease and ensure early treatment. In India the standard of living is low, health education almost entirely lacking, and the public health services very partially developed. It is therefore not surprising that the level of health is low, that preventible epidemic diseases are widespread, and that the expectation of life is stated to be 27 years. In this pamphlet the author indicates the underlying causes of India's lack of health and gives an outline of the present public health and medical organization of the country. Marked improvement can, he suggests, be made along four lines: (1) Consolidated Public Health Acts like the Madras Act of 1939; (2) scientific training and supervision of the social services; (3) better central and provincial planning; and (4) the training of an adequate number of doctors, nurses and health visitors.

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THE level of health in India is low. Preventible epidemic diseases such as smallpox, typhoid, dysenteries, cholera and malaria are widespread. Out of 6,165,234 deaths in 1939 malaria accounted for 1,411,614, smallpox for 48,103, cholera for 97,566 and dysenteries and diarrhoeas for 260,300. Tuberculosis is spreading and each year presents a more menacing problem. The resistance of the population to disease is low. Malnutrition and nutritional diseases are omnipresent. These in part account for the anæmia which is particularly widespread among women and children. The heavy incidence of disease is reflected in the high mortality figures:

COMPARATIVE VITAL STATISTICS FOR THE YEAR 1937
India and Selected Countries

			Death rate per 1,000 population	Birth rate per 1,000 population	Infant Mortality per 1,000 births
India	...	..	22.4	34.5	162
Australia	...	...	9.4	17.4	38
U.S.A.	...	...	11.2	17.0	54
England-Wales	...	...	12.4	14.9	58
Ceylon	...	...	21.7	37.8	138
Java	...	...	18.8	28.3	...
Japan	...	...	17.0	30.6	106

The low level of health is reflected in the expectation of life in British India which is stated to be 27 years, in contrast to an expectation of 67 years in Australia, of 63

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disease; organization of medical and nursing service for the early diagnosis and preventive treatment of disease in the individual.

Adequate plans for public health service can be undertaken only with a knowledge of the realities of the economic situation. The results of any social service administration depend upon the money available and the way in which it is spent. Much ineffective administration results from violating this principle. It is obvious that there can be no results if a school medical service in India, with its annual *per capita* income of Rs. 65 (£5), is planned on the same administrative basis as in England—a country with an annual *per capita* income of £76 (1936) where the school medical service alone costs 7s. *per capita* of school population per annum. The economic problem must first be solved in India before there can be a significant school health programme. The solution lies in the development of a plan whereby the facilities purchased elsewhere at a cost of 7s. *per capita* can be obtained with the local economic resources. It can be done and has been done in other countries of relatively low economic standard. Limited funds do not make an adequate and good service impossible provided the people want the service and are prepared to contribute work in lieu of money, and provided there are people with the knowledge to plan such a service.

1. SOCIAL ASSURANCE AND WELFARE

Social assurance covers not only activities collectively undertaken to provide security through health insurance, unemployment insurance, workmen's compensation, old age pensions, but also through family allowances, housing, etc. These measures to maintain health and prevent disease constitute what may be termed pre-medical public health activities. Whether a country's medical policy is abreast of the modern trend which emphasizes *health* administration rather than *disease* administration is determined by the extent of such measures in that country. India's medical health policy, unfortunately, is still in the preliminary stage of being chiefly a disease policy. The latter is, of

course, necessary and will continue to be, although becoming less necessary as it is recognized that disease is as much a result of social and economic maladjustments as of infections. The new 'traditional' public health medical administration is chiefly a growth of the past half-century from the epoch-making work of Pasteur and Koch. New developments in the next half-century will mainly be to provide social machinery to assure living standards adequate to maintain health and prevent disease through social and economic measures, although there also will be extensions of the existing types of service, especially in countries such as India where they are still very deficient.

India almost entirely lacks effective social or economic measures for the maintenance of health. Social welfare invariably originates through labour legislation. *Indian Labour Legislation* by R. K. Das (1938) gives fuller particulars of present social welfare measures. Also the Royal Commission on Labour (1931) made detailed recommendations important in the social field. Social insurance has been introduced only in the case of workmen's compensation and maternity benefit. Workmen's compensation was provided in the Factories Act 1922, followed by several amending acts culminating in that of 1934. Provision is included for permanent disablement and death, and the Act covers some six million workers. Maternity benefit has been enforced by six Provincial Governments, beginning with Bombay in 1929. The entire cost is borne by employers. In general the leave features with cash benefit are similar to those elsewhere throughout the world, namely one month before and one month after the birth of the child with benefit approximating 8 annas per day. Besides workmen's compensation and maternity benefits, other minor recommendations of the Commission relating to labourers employed in factories, mines, plantations and docks have been put into effect. These however do not go far, and definite improvement in the health of the labour population will have to await implementation of many of the major recommendations of the Royal Commission. There is yet no provision for unemployment or pension insurance. Health insurance is under active consideration. In brief, social insurance in India is in its

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infancy. One may anticipate rapid growth in the coming two decades.

The Royal Commission on Labour (1931) made important recommendations to improve the present housing conditions. These included town-planning acts to provide housing for the working class; the survey of industrial areas to determine and plan for housing needs including sanitation; minimum standards of housing, etc. Individual firms have effected marked improvement under the permissive legislation in the housing accommodation of their workers; but Governments, both Central and Provincial, have not as yet undertaken the solution of the problem in any significant manner, although small beginnings have been made in the larger metropolitan cities and in Delhi province. The Labour Commission also appreciated the importance of nutrition in improving the health of workers. As yet, however, little of significance has been effected in this field so essential for the maintenance of health and prevention of disease. Elsewhere reference is made to the initial steps taken by the Central Government, such as research at the Nutrition Research Laboratories, Coonoor, and the appointment of Nutrition Officers in the larger provinces through the stimulus of the Central Advisory Board of Health. Bengal has a sub-committee on nutrition under the sanitary board of the Government of Bengal. The Central Advisory Board of Health in their School Health Report (1941) recommend that all children should be given a midday meal, to be brought from their homes or provided at the school; and that the fundamental principles of nutrition should be made available in the different Indian languages and taught to both the children and their parents. A limited amount of free milk is provided in most of the maternity and child welfare centres. But these centres serve a very small proportion of the population, so small as to be insignificant. With a purchasing capacity of only about 2½ annas a day, the average Indian is only able to meet his energy requirements with cheap carbohydrate foods like rice and cannot afford sufficient protective foods. Deficiencies in diet such as animal protein, calcium and vitamins A and C are widespread. The result is poor physique, high

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maternal and infantile mortality rates and a low expectation of life. The importance of malnutrition is emphasized by the Director of the Nutrition Research Laboratories, Coonoor, who records that 'half the mortality recorded in India occurs in children under ten years. Malnutrition is one of the chief causes of the rapid exit of young human beings from the world so soon after their arrival in it'.

The relatively little space given to discussing social welfare measures for the maintenance of health in India merely reflects their absence and not their unimportance. Bernal in his *Social Functions of Science* writes:

'It is probable that an overwhelming majority of diseases that occur throughout the world are due directly or indirectly to the lack of primary necessities, generally food, and many of the remainder . . . to bad living conditions.'

In the past, states regarded these questions as responsibilities of the individual, but today progressive states recognize the need for providing such necessary services as one is unable to obtain as an individual. This is fundamental to modern organized life. Included in these is the right to food and everything necessary to maintain health. It is only when such a health policy is adopted that the important pre-medical causes of disease can be rooted out.

2. HEALTH EDUCATION

The aim of modern education in general is to equip the future citizen to take his place in society as efficiently and fully as possible. India almost entirely lacks public education of the kind summarized by Hughes (1939): '(i) To present definite knowledge essential to intelligent citizenship and to an understanding of current conditions and problems. (ii) To promote worthy civic ideals, attitudes, habits, skills which will operate helpfully in the lives of the pupils. (iii) To provide practice in constructive thinking, reason and critical judgement. (iv) To fit the pupil for effective participation in the activities of his community, state and nation, and of the world. (v) To help the pupil to develop sound economic

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ideas and to apply them in everyday life.' Health education discharges this responsibility specifically as it relates to the health of the citizen. He should on the completion of his secondary education have developed abilities and habits for maintaining health and preventing disease.

Measures to assure satisfactory housing, nutrition and security on the one hand, and on the other, public health measures for sanitation, communicable diseases control, maternity and child welfare, school and industrial health, etc., are robbed of much of their effectiveness unless the individual is educated to avail himself intelligently and consciously of the health benefits deriving from such measures. But health instruction in primary and secondary education cannot develop beyond the general level of education, which in India is very limited, as reflected in the illiteracy rate of 88 per cent. That even this limited education is of poor standard is shown by the following report of the Special Officer for Secondary Education, Bengal, in 1939: 'Because of the poor primary school education not more than 5,000 of the Government's 64,000 primary schools in Bengal are contributing to the removal of illiteracy.' This situation seems to prevail generally throughout India, as was noted in the Simon Report: 'We are inevitably driven to the conclusion that the efforts of the past few years have resulted in much less real advance towards the attainment of the goal of a literate population in British India than gross total of numbers under instruction might suggest, and that, if these efforts are continued on the same lines, they afford little promise for the future. While the ignorance and indifference in matters of education which still, though to a diminishing degree, envelop the ordinary Indian household constitute the main obstacle to real progress, we cannot resist the conclusion that the failure, even in existing circumstances, to achieve more substantial results is due mainly to ineffective control, direction and administration. Until these are improved, figures of quantitative expansion will be wholly illusory as an index of increasing literacy, and much of the present expenditure of money, enthusiasm and effort will be futile.' General education being what it is one can hardly expect health education in India to be regarded as of

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any significance, and until this defect is corrected India's health will not improve. The recommendations of the Board of Education, London, during the past ten years bring home the realization that health instruction is healthy living, rather than a subject to be taught, and that instruction is ineffective where theory is separated from practice. Modern health education forms an integral part of physical training, house-craft, geography, history, and—particularly—the natural sciences in their biological aspect especially. As such methods of teaching are absent in India, health education on modern lines cannot be given.

The urgent need for adequate health instruction in India cannot be over-emphasized. Fortunately the Joint Committee appointed by the Central Advisory Boards of Health and of Education appreciates the situation and its urgency, as is evidenced by its 1941 report in which the teaching of hygiene in schools, training schools and colleges is emphasized. Among other things in substantiation of the foregoing remarks, the report states:

'In regard to the teaching of hygiene to children the instruction now given in primary schools in several provinces is inappropriate to the age of the child. The training of the child in health habits does not begin sufficiently early and the approach to the subject is through disease rather than through a study of the requirements for health. The Committee consider that instruction in hygiene should begin at the earliest age possible. At the beginning the instruction should be wholly on practical lines and devoted mainly to personal hygiene, while at a later age the child's interest can be directed to environmental hygiene and the health of the community. The Committee wish to emphasize that unless greater attention is given by the responsible authorities to the planning of school buildings and to the provision of equipment which will make the practice of healthy habits possible, progress will be difficult. It is futile to try to awaken in the child an interest in and a sense of responsibility for his own health and for the sanitary condition of his surroundings so long as the schools themselves fall short of reasonable hygienic

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standards. As the teacher should be the model for the child to follow in personal standards, the school should be the model for the home in regard to environmental cleanliness.'

India requires the development of health education in a modern educational system before its health can reach any satisfactory level.

3. PUBLIC HEALTH

Factual statements and figures are uninteresting but necessary to understand the status of health in India. To be able to do this it is also necessary to outline the history and structure of various aspects of medical activities.

History

The recruitment of ship's surgeons by the East India Company led to the establishment of civil and military services by the Company in the middle of the eighteenth century, and in turn to the training of assistants to serve as dressers, etc. These services were originally designed to protect the health of the Army and of the Europeans. The report in 1859 of the Royal Commission on the sanitary state of the Army pointed out that to maintain the health of the Army it was necessary to establish in each Presidency a 'Commission of Public Health' to supervise the sanitary conditions of the general population, to improve the sanitary conditions of Indian cities, to prevent epidemics, to construct drainage and water supplies, etc. These Commissions were appointed in 1864 in the three Presidencies to improve the health primarily of the military and secondarily of the general population. In 1869 a Sanitary Commissioner and Statistical Officer were appointed with the Government of India. Sanitary Commissioners were appointed in the same year for the three Presidency provinces as well as the North-Western Provinces, Oudh, the Punjab, the Central Provinces and Burma, whose duties were purely advisory. Local self-government, constituting various local

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bodies, came into effect in 1885; and in 1888 the Government of India laid down that the promotion of sanitation should be regarded as one of the most important duties of local bodies. The plague epidemic of 1896, and the report in 1904 of the Plague Commission, resulted in the revival of the office of the Sanitary Commissioner with the Government of India, an office which since 1888 had been merged in that of the Director-General, Indian Medical Service. In 1912 the Government of India authorized local governments to select their own sanitary commissioners, throwing open the higher posts to qualified Indians, and sanctioned the appointment of eight additional deputy sanitary commissioners for the provinces as well as of health officers graded according to qualification.

The Government of India Act 1919 transferred the responsibility for local medical and public health administration to the Provincial Governments; and this transfer was confirmed by the Government of India Act 1935. The Reforms' effect on public health administration was twofold. Ministers responsible to the legislatures were anxious to help the growth of education, medical relief and sanitation as much as the funds permitted. The organization of fully trained sanitary staff for both rural and municipal areas, which the Public Health Commissions recommended in the sixties of the last century (when their recommendations were pigeon-holed), was now taken up in earnest; and in the years succeeding the introduction of the Reforms, public health officers were recruited in all the provinces. Although there has been quantitative expansion of public health activity in the provinces since 1921, the quality of work suffers from the weak control of the local Governments over the local bodies.. The Simon Commission (1930) states:

'The result of the legislative and administrative action taken in accordance with the scheme of the Reforms was, in effect, to deprive the new Ministers of Local Self-Government of powers which were essential if they were to perform their tasks successfully. . . . We have heard the criticism that the only effective powers possessed by provincial Governments, namely those of suspension and dissolution, have left the Ministers powerless in the face of misconduct calling for less

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drastic treatment, and we think that this criticism is well founded.'

As the Report pointed out, prior to the 1919 Reforms local self-government in India was of the Continental, highly centralized type. The Act of 1919 decentralized local self-government before experienced traditions and public opinion had had time to develop, with the result predicted in Lord Ripon's Resolution of 1882: 'But at starting [local self-government] there will doubtless be many failures, calculated to discourage exaggerated hopes, and even in some cases to cast apparent discredit upon the practice of self-government itself.' Eventually there will be substantial progress, as the same Resolution pointed out, for 'as education advances, there is rapidly growing up all over the country an intelligent class of public-spirited men'. However, this 'education' has not so far advanced sufficiently to hold out promise of immediate efficient local government in the social welfare fields. In the interim it was unwise so completely to relinquish the Provincial Governments' control over local bodies to the extent seen particularly in Bengal; and it might be wise for Governments to centralize the welfare services for a given period.

Central Government Organization

Although a major part of the medical services has been transferred to Provincial Governments, the Central Government is still responsible for certain research and technical training institutions, the census, emigration and immigration, port quarantine and the constitution and powers of port authorities, air-port quarantine, the regulation and conditions of labour and safety in mines and oil-fields.

The Provincial Governments are responsible for health conditions in prisons, local government in relation to health including sanitation, hospitalization, registration of births and deaths, pilgrimages within India, water-supplies, and the control of foods and drugs.

A concurrent list of medical and public health matters is the joint responsibility of Central and Provincial legislatures. Part I of this list includes marriage; care of infants, minors

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and the mentally deficient; poisons and dangerous drugs. The executive authority for these matters lies with the province. Part II includes factory health, labour welfare, and control of epidemics which may extend from one province to another. Central legislation on the subjects in Part II may authorize the giving of directions to a province by the Central Government as to the carrying into execution of such legislation.

The Central medical and public health administration of the civil population in British India comes under the Department of Education, Health and Lands; that of the Indian States under the Political Department; and that of jails under provinces. The technical head on all medical questions is the Director-General, Indian Medical Service, under whom comes the Public Health Commissioner together with other assistants. The Public Health Commissioner deals directly with the Government of India with respect to quarantine and sea- and air-port administration, international health, advice on all public health matters, the Central Advisory Board of Health, and the collection, compilation and dissemination of statistics. For certain institutions, e.g. the Malaria Institute, the All-India Institute of Hygiene and Public Health, and the Medical Research Department, he acts as Staff Officer to the Director-General.

The Central Advisory Board of Health constituted in 1937 has great potentialities for planning, so essential to effective health protection. Although restricted to an advisory capacity, it has stimulated the development of specific provincial organs for dealing with nutrition, malaria and school health. The Board is representative not only of the provinces, but also of the Indian States. The Public Health Commissioner is the Secretary of the Board. It provides the nucleus from which will evolve the federal administration that will eventually prove essential.

Provincial Organization

Three stages of evolution may be noted: the period with personnel only advisory and limited to the Provincial Government itself; the addition of deputy sanitary com-

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missioners, later called Assistant Directors of Public Health to supervise administrative ranges; the appearance of health officers appointed to districts. The objective throughout this period was largely control of epidemics, particularly cholera, smallpox and plague. A fourth stage is now emerging with the addition to the centralized (horizontal) administration of specific vertical functional organizations, particularly for malaria, maternity and child welfare, nutrition, and—very shortly—for school health. The stage of evolution varies in the individual provinces but is along the same lines. The provincial public health departments are mainly concerned with rural public health. The organization and administration is autonomous in such provincial capitals as have Self-Government Acts of their own, e.g. Calcutta, Madras, Bombay and Karachi. All other municipalities in these provinces come within the scope of the provincial municipal acts, e.g. the Bengal Municipal Act. But even the autonomous cities like Calcutta and Bombay are subject to the control of the respective Provincial Governments.

Rural Health Administration

The Bengal organization is comparable to that of other provinces. The present average peripheral unit is a health circle around 80,000 of population and 80 square miles. This unit has come into existence only during the past decade and a half. Its establishment was also primarily for the purpose of controlling epidemics, especially smallpox and cholera, and for prevention of adulteration of food. The staff consists generally of a sanitary inspector, assisted by one health assistant, one or more vaccinators and a medicine carrier. The sanitary inspectors are appointed by the Government, the rest by the district board and supervised by the district health officer. The whole cost (Rs. 12 lakhs in Bengal) is borne by the Government on condition that the district board should not reduce their expenditure on public health. In some provinces there is a gradual emergence of sub-divisional health officers, in between the health circle and the district, supervising five to eight

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peripheral units. Thus, Bengal with a population of 60 millions has today a total cadre for the type of organization described of 29 district health officers, 681 sanitary inspectors, 2,843 vaccinators, and 575 health assistants, supervised by four Assistant Directors of Public Health.

There are altogether 6,500 curative dispensaries and hospitals in India, which can treat annually only a total of 35 million new and old patients. The bulk of medical relief for India's 400 millions, of whom more than 80 per cent live in villages, is still provided through the indigenous pre-scientific systems of medicine and their practitioners. It cannot be otherwise with the relatively small provision of modern services. The purpose of this pamphlet is not to discuss either the indigenous systems of medicine or the *dai* midwifery service which have come down through the centuries. As modern social services come into being, with personnel trained for their discharge, the old systems will disappear even as they did in Japan in the past half-century.

Parallel with, but separate from, the foregoing health organization and administration is the organization for medical relief in the department of the Surgeons-General for the Presidency provinces and Inspectors-General of Civil Hospitals for other provinces. Each district is provided with at least one hospital under a civil surgeon, with or without hospitals at sub-divisional headquarters under assistant surgeons. Bengal has 217 hospitals with 6,189 beds, in addition to 1,214 dispensaries which are staffed by 460 medical officers and 1,819 sub-assistant surgeons. The hospitals and dispensaries are in general supported by the district boards or union boards. Generally in the first instance the hospital or building in question is the gift of some citizen.

The district public health and medical expenditure is usually subsidized by the Government and local bodies to approximately 60 per cent. Theoretically the Government grant-in-aid carries the right to nominate and to remove health and medical officers. In reality this power rests with the district board.

The foregoing outlines the basic organization. Before proceeding further it is necessary to examine the achievements of this basic organization, particularly in the field of

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public health. These cannot be considered good in comparison with results in other Asiatic countries if continued heavy smallpox and cholera are the criteria. It must be recalled that at the turn of the century the death rates over ten-year periods in Asiatic countries from smallpox and cholera were practically the same. The following table indicates the position over the last reported ten-year period for which figures are available in these two diseases:

DEATH RATES FOR SMALLPOX AND CHOLERA IN ASIATIC COUNTRIES

(Mortality rate per 100,000 Population)

		British India	Burma	Japan	Philippines	French Indo-China	Netherlands East Indies	Thailand (Siam)
SMALLPOX—								
1928	...	28.5	19.3	0.1	•	1.6	10.0	0.2
1929	...	21.6	12.6	0.02	•	7.3	69.0	0.5
1930	...	21.5	4.4	0.006	•	7.8	85.0	0.1
1931	...	11.0	3.3	0.001	0.007	2.4	8.0	0.04
1932	...	13.3	16.9	0.06	0.0	6.7	2.0	0.03
1933	...	30.7	10.3	0.08	0.0	4.4	0.0	0.1
1934	...	24.8	10.9	0.05	0.0	2.7	0.0	0.2
1935	...	26.5	8.6	0.02	0.0	2.2	0.0	0.03
1936	...	30.6	9.2	0.04	0.0	1.0	0.0	0.0
1937	...	16.2	9.3	0.003	0.0	3.0	0.0	0.08
CHOLERA—								
1928	...	100	49	0.001	0.1	21.3	0.002	9.5
1929	...	84	54	0.2	0.0	17.0	0.0	14.4
1930	...	107	41	0.0	•	•	0.0	0.6
1931	...	65.4	3.6	0.0	5.8	6.8	0.0	0.1
1932	...	19.9	7.4	0.001	3.3	1.6	0.0	0.1
1933	...	20.2	1.2	0.0	13.4	0.8	0.0	0.2
1934	...	59.1	5.6	0.0	4.7	0.4	0.0	0.04
1935	...	62.2	46.6	0.0	0.02	0.4	•	6.3
1936	...	47.1	6.7	0.0	0.01	0.3	•	21.6
1937	...	29.3	23.7	0.01	0.01	38.3	•	41.1

* Figures not available.

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The relatively poor result in India has not been due to either lack of funds or personnel. Bengal has 3,018 vaccinators and spent Rs. 4,70,644 in 1940 specifically to control smallpox. One important reason for this poor result undoubtedly has been the greater decentralization of local self-government in India than in other countries. Decentralization before the level of technical public opinion in local bodies has reached a certain stage is dangerous.

Reference has been made already to the gradual appearance of administration by function, particularly malaria, nutrition, maternity and child welfare and school health. This trend is due primarily to the stimulus of the Central Government, particularly in malaria where substantial grants-in-aid have been made to certain provinces. Malaria is probably India's chief disease, and unfortunately much of it has been man-made by watertight departments, because large irrigation projects, railways and roads were built without reference to the possibility of extension of this disease. Results to date from the new control measures are negligible owing to the short period of their operation, and more so because significant improvement in the malaria situation must await social, economic and educational progress. Six of the twelve provinces are now developing malarial organizations. It should be noted that a laboratory is essential.

The origin of maternity and child welfare is referred to later. Provincial organizations for nutrition and school health work have as yet reached only an initial stage. The recommendation of the Central Advisory Board of Health is already stimulating progress. Three provinces and one State now have sections for nutrition. Seven of the provinces and three States now have sections for school health.

The most acute problem in India at present is that of bringing medical protection to the individual villager who has hitherto been largely neglected. Its urgency has, as might be expected, resulted in varying view-points as to its solution. Two chief trends are observable during the past decade. On the one hand there is the policy inaugurated in Madras in 1925 of subsidizing rural practitioners with Rs. 50 a month to induce them to live in the mofussil. It was carried one step further in 1934 by the payment of an

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additional subsidy of Rs. 15 per month to practitioners who after a short course of training would discharge certain public health functions. Results to date have not been good. The other trend, exemplified best in the Punjab, is to combine curative and preventive functions at the periphery, and to add public health to the curative responsibilities of the dispensary physician. This was inaugurated in 1938. The war suspended the execution of a plan in Bengal that went beyond that of the Punjab, although based upon the same principles, whereby a peripheral unit for each 20,000 population was to be established to discharge both curative and preventive functions under a sub-assistant surgeon. Medical co-operatives which also discharged health functions had been tried in the Punjab. The unification of curative and preventive functions under a single administration is essential and has become an axiom in public health. This is particularly so in India, and Major-General Sir John Megaw, late Director-General, Indian Medical Service, pointed out that 'it is impracticable to draw a sharp line of distinction between medical relief and disease prevention. The ideal to be aimed at is to have effective co-operation between the workers who are engaged in these two forms of medical activity. Division of labour is desirable and even essential in certain matters but when we come down to the small units, such as village dispensaries, India cannot afford to maintain two experts in each centre of population. There is no reason why the dispensary doctor should not assume responsibility for the general supervision of the health of the area in which he works.'

Urban Health Administration

The conclusion reached by the Royal Commission on Labour (1931) on urban administration, in the decade since past, may be amplified but not modified except in respect to the qualification of health officers, which is improving; although the Report of the second meeting of the Central Advisory Board of Health (1939) had occasion to state that, 'according to available information, nearly half the districts and three-quarters of the municipalities in British India still are without qualified health officers. . . .' 'Under the

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existing local self-government acts municipal councils have been given almost complete responsibility for public health, but in many of the areas visited by us we were unfavourably impressed with the standard of health administration and with the manner in which these duties have been performed. Health officers are to be found in most of the larger municipalities, but their work is too often ineffective because they have incomplete control of the health organizations or because their recommendations fail to receive active consideration from their councils. In the first place, only a minority have so far appointed qualified health officers and this defect should be remedied at the earliest possible opportunity, whilst municipal health organizations should also be improved and strengthened. Secondly, all by-laws and regulations dealing with health, housing and sanitation should be revised and brought up to date. Under the existing law the duty is given to municipal councils of framing by-laws on such matters, but instances are not wanting where these have never been prepared, and efficient enforcement of those in existence has rarely been practised. It should be the duty of the health officer, under instructions from his council, to see that all by-laws are impartially and vigorously applied. . . . We recognize that in all these matters progress will not be easy until the social conscience has been aroused. But we believe that the presence within municipal councils of even a few leaders determined that these bodies should accept responsibility would exercise an important influence in making the community face the situation.'

The comparative figures on p. 21 corroborate the foregoing conclusions.

There are first- and second-class municipalities according to whether the population is above or below 50,000. In addition there are the autonomous corporations of Calcutta, Bombay, Madras and Karachi. It is difficult to generalize about urban public health administration because of the wide range in scope and level of organization. Presumably in due course the first-class municipalities will evolve into corporations. Industrialization will increase the number of first-class municipalities, which at present are relatively few: of the 118 municipalities of Bengal only two are first-class.

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COMPARISON OF VITAL STATISTICS

	Calcutta	Madras	Bombay	New York	London
Population ...	2,110,051 ¹	768,798 ¹	1,421,498 ³	7,521,000 ²	4,095,000 ¹
Death rate per 1,000 ...	27.6 ¹	33.9 ¹	25.0 ¹	9.9 ²	11.4 ³
Infant mortality rate per 1,000 live births ...	212.0	205.8	201.4	30.8	48.0 ¹
Birth rate per 1,000 ...	26.1	43.2	33.4	13.6	15.0

CAUSE—SPECIFIC DEATH RATES PER 100,000

Tuberculosis ...	270.0	113.0	170.0	47.0	87.0
Dysentery and diarrhoea ...	250.0	436.0	252.0	0.0	0.0
*Typhoid ...	90.0	16.0	40.0	0.2	0.4 ¹
Cholera ...	50.0	0.0	0.0	0.0	0.0

The level of health organization in Bengal is indicated by the fact that of the 116 second-class municipalities only 27 are provided with full-time medical officers of health. Twenty-eight do not have a sanitary inspector, while eleven do not have even a vaccinator, who is generally the first type of public health officer to be employed. Even the two first-class municipalities have only one whole-time medical officer. Urban public health may be said to have developed to any extent only in the corporations. In general the activities are mainly of the 'impersonal' type, relating particularly to registration, sanitation, food adulteration, etc. Exceptions are smallpox vaccination, malaria control and very considerable activity in maternity and child welfare. School and industrial health are markedly absent, as is control of venereal disease. The *per capita* annual budgets are not inconsiderable, as is illustrated by Calcutta (1941 population of 2,110,051), whose total expenditure for 1942-3

¹ 1931 ² 1937 ³ 1938 ⁴ 1940 ⁵ 1941

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was Rs. 1,08,51,180 of which the impersonal services received Rs. 1,06,22,280 compared with Rs. 2,28,900 for personal services. Administration, except for malaria control, lacks differentiation into specialized functions, with the occasional exception, such as Madras, where a woman medical officer is in charge of maternity and child welfare as a section. The result is absence of expert supervision of technical services for epidemiology, public health engineering, etc. The corporations have laboratories designed chiefly for examination of water and food. Free diagnostic service to general practitioners is practically unknown. The corporations may also manufacture their own typhoid and cholera vaccines. There is no Government standardization of biological products, and thus while the public cannot be assured of the quality of the vaccines being used, generally speaking the products turned out by Government laboratories are said to be satisfactory. A third defect is the absence of boards of health competent to provide technical advice. The health committees of the corporations are political bodies changing annually and selected from the councillors, most of whom have not had previous opportunity of considering public health or medical questions. Two illustrations of the varying range in administrative practices are afforded by water-works control and maternity and child welfare. Thus Calcutta with probably the largest entirely slow sand filters in the world only inaugurated a water-works laboratory in 1940, and that on a temporary basis; and 74 to 75 per cent of births in Bombay in 1939-40 were institutional as compared with 27.9 per cent in Calcutta during 1938-40.

Medical Education

A medical school was opened in 1822 and medical colleges in Madras and Calcutta in 1835, recognized by the Royal College of Surgeons in 1845. Medical education has developed in the past one hundred years and there are now ten University Medical Colleges, including one exclusively for women; and twenty-seven Medical Schools, of which eighteen are Government-owned. The medical colleges pass out approximately seven hundred doctors and the medical

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schools approximately one thousand sub-assistant surgeons per annum.

The university degree was registered with the General Medical Council of the United Kingdom from 1892 until 1933, thus implying that the standard of medical instruction had reached the minimum level obtaining in Great Britain in that period. The chief permissible comment on university medical education in India is the general absence of facilities for post-graduate instruction. While practically each of the medical colleges offers a Doctorate of Medicine, Master of Surgery, etc., the facilities are not of a category such as those of the British Post-Graduate Medical School or other international centres of graduate study. The specially organized nine-months' D.P.H. course at the All-India Institute of Hygiene and Public Health, and the six months' D.T.M. course at the School of Tropical Medicine, both at Calcutta, are exceptions. Several of the colleges have offered, or are offering, the D.P.H. (or equivalent) qualification in public health, namely the Medical College, Madras (B.S.Sc.); Grant Medical College, Bombay (B.Hy.); and King George Medical College, Lucknow (D.P.H.) (suspended). The Malaria Institute of India offers an annual six weeks' course. In general the level of undergraduate instruction in the medical colleges of any country is reflected in their ability to provide graduate instruction. Another reflection on the standard of university medical education is the relatively small amount of research of significance undertaken in comparison with university medical colleges in other countries.

A lower standard of medical qualification has proved an interim necessity in the evolution of medical education throughout the world. It is, however, a temporary phenomenon resulting eventually in the lower standard being raised to a university level or the school in question being abolished. This stage is now being reached in India and is expected to close in another quarter of a century. The admission requirement to medical schools is matriculation. The range between the best and the worst medical schools is very wide. Major-General Sir Cuthbert Sprawson, C.I.E., Director-General, Indian Medical Service, reported in 1935

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on the schools as they were at that time, and the low level of some at least is reflected in the fact that there were instances when 50 students were being taught pathology with only four microscopes. Every school at that time was deficient in one or all of the few very minimum requirements he deemed necessary.

Medical education in India includes a special provision for military medical students of the Indian Medical Department, which is a subordinate service established more than a hundred years ago for the military. A war reserve is provided by a portion of the personnel being seconded for civil employment. The Service consists of assistant surgeons, British and Indian cadres. The Government bears the total expenses of their education. But recently recruitment has also been made of other candidates. Recruitment is limited to Europeans, domiciled Europeans and Anglo-Indians for the British cadre, and to Indians for the Indian cadre.

Madras Medical College admitted women in 1874, and today all colleges and schools take a varying minimum number of women each year. In addition, one medical college and three medical schools are conducted exclusively for women.

Medical Registration

There are approximately 42,000 doctors, of whom two-thirds are licentiates. This total is less than Japan's for a population approximately the same as Bengal's. If there were one physician per 2,000 of population, India would require 200,000 doctors.

The Medical Council of India was constituted in 1933 along lines comparable to the General Medical Council of Great Britain. It does not, however, maintain a register nor exercise disciplinary powers, which are functions of the Provincial Councils. Its twofold responsibility is to maintain a uniform minimum standard of university medical qualifications for British India; and to further the recognition of these qualifications outside of British India, with the reciprocal recognition in British India of approved quali-

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fications. This reciprocity is still limited to the same countries as when this function of the Council of India was discharged by the General Medical Council of Great Britain.

The first Provincial Medical Council was established in Bombay in 1912, since when Councils have been established in all the provinces. The function of the Provincial Councils is to regulate the practice of scientific medicine without, however, interfering with the indigenous systems. The Councils maintain a register of qualified practitioners and in addition supervise medical education, inspect examinations and exercise disciplinary powers over medical practitioners. The Provincial Councils also advise local Governments in regard to recognition of various medical qualifications.

Nursing and Midwifery

There are less than 4,500 nurses throughout the country as compared with 42,000 doctors, and this is a measure of the present backward status of the profession.¹ The disproportion is traceable to the social circumstances of India, as it has only been in the past decade that any appreciable number of educated Indian women have taken to nursing as a profession. The implied social obstacle is gradually disappearing and the problem now chiefly awaits leadership from Indian women.

A sick-nursing certificate was provided in 1854 for candidates failing to secure a diploma in the first midwifery school in Madras. This Presidency established a scheme for training nurses in 1871. A hospital nurses' institution of Calcutta was founded at the Medical College Hospital in 1859. The movement spread until training was offered by all larger hospitals throughout the country. The candidates were mostly Anglo-Indians and Domiciled Europeans. Training was extended to three years in 1905. In the same year the organization of hospital matrons came into existence which has since become the Trained Nurses' Association of India, and now has a membership of 1,600 and publishes monthly

¹ There are 109,500 nurses and 61,420 doctors in Great Britain, or approximately two nurses to each practising doctor.

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amalgamated in 1931 with the Indian Red Cross and all maternity and child welfare work performed by both bodies was undertaken by a Maternity and Child Welfare Bureau. Additional health schools have since been established in Lahore, Madras, Calcutta, Nagpur, Lucknow, Poona and Bombay. The candidates in the majority of schools are matriculates who have had training in midwifery. The syllabus of health visitors' training covers 18 months in two schools (Calcutta and Delhi) and 12 months in the others. The Health Visitors' League was established in 1922.

The emphasis of health visiting in India is on maternity and child welfare. Students must first qualify as midwives before undertaking their 18 months' training in the health visitors' schools. Practice in the latter, to all intents and purposes, is limited to maternity and child welfare. Even in this single field of early diagnosis and preventive treatment of disease the demand for visitors far exceeds the supply. Only 350 of the 828 welfare centres were provided with certified visitors in 1938. Public Health nursing is as yet unknown in India. Until this comes into being there cannot be modern administrative services for the other fields of early diagnosis and preventive treatment, particularly school, industrial tuberculosis and venereal disease services.

Industrial Health

Industrial health is still chiefly a private responsibility and can scarcely be said to have become a major activity. There has been no significant improvement since the recommendations of the Royal Commission on Labour in India (1931), whose two chapters on Health and Housing for the industrial worker give a detailed description of the present situation. Their conclusion on housing can also be utilized for health:

'There can be no doubt that action is urgently necessary to counteract the serious effect on the health of the workers for which present conditions are responsible. Evidence is not lacking that part of the labour unrest which has characterized industrial development during recent years is due to the realization, however

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vague, on the part of the worker that his standard of living is too low. . . . This awakening sense might well be used to give him a truer understanding of what can be done to place him in more sanitary surroundings and what he can himself do to further that end. Much thought, energy and money will have to be expended before an appreciable advance can be effected, but of the urgent necessity for such advance there can be no question.'

A very considerable medical service is provided by the larger industrial concerns, but these are mainly concerned with medical relief and ordinary public health measures of prevention, such as anti-malarial work.

A few of the large industrial associations, e.g. the tea, jute and mining associations, have endowed research on diseases from which their employees are liable to suffer, but the factory worker, in the factory, has seldom been the subject of any direct investigation. The Royal Commission on Labour drew attention to the necessity for industry being conducted as efficiently as possible. The British Industrial Health Research Board and its researches were cited to indicate the importance of scientifically designed investigations to enable the various branches of industry to adopt improvements in practice which would lead to increased efficiency. The Commission recommended that comparable research in India was called for. The headings under which research has been carried out in Great Britain show the wide fields in which administration should be introduced. These cover hours of labour, environmental conditions such as lighting, ventilation, etc., and methods of work; vocational suitability; and industrial sickness including labour wastage and occupational disease.

The inauguration of an industrial health policy and programme is long overdue on the part of both Central and Provincial Governments. In this respect one cannot improve on the following, again taken from the Report of the Royal Commission:

'The proper treatment of problems of public health demands a considered programme; the attempt to deal

with them piecemeal too often involves the frittering away of financial resources. It follows that progress in the provision of adequate medical facilities, the development of welfare schemes and the construction of working class houses must inevitably be gradual and that expenditure will be spaced over a considerable period of years. We do not suggest, therefore, that all our recommendations . . . can be dealt with either immediately or simultaneously, but we have attempted to lay down a policy and a programme ensuring gradual and progressive advance. We believe our proposals to be practicable and they are necessary if the workers' standards of living are to be raised to a reasonable level. It is from this point of view that they should be considered; with energy, goodwill and co-operation we are convinced that they can be successfully carried out.'

As has been pointed out earlier, while some recommendations of the Commission made in 1931 have been put into effect, the major ones still remain to be carried out despite the developments arising out of the war, which make the need for such action even more urgent.

CONCLUSION

The preceding pages show that although a considerable beginning has been made there is much to be done to improve the health of India. The weaknesses in the present situation may be summarized by the following four lines along which improvement might be markedly effected.

1. *Consolidated Health Acts.* The corner-stone of any organized community effort is law. Public health legislation in India is disconnected and incomplete. The importance of a comprehensive Public Health Act is obvious when one considers that improvements in England have been from such Consolidated Acts as those of 1875 and 1936. Madras introduced a Consolidated Act in 1939. The time is long past for similar acts in the other provinces. Also, the 1919 and 1935 Acts decentralized public health to an extent which will interfere with growth, and eventually they must be modified.

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Board might take the initiative in creating a planning organization at the centre comprising the various sections of Government having to do with social welfare services either in existence or potential. Such an organization at the centre might very well outline a five-year programme. Experience has proved that for effective introduction of new measures successful demonstration of the proposed activity is necessary. As stated, the chief immediate administrative problem is to bring medical protection to the individual villager. The satisfactory solution lies in undertaking a controlled investigation and demonstration of the best means of applying medical knowledge to the health requirements of a large unit of population. While the problem is not so urgent, urban administrative policy requires the same form of treatment.

4. *Education and Number of Personnel.* Medical education has become markedly modified since the last war, particularly in its emphasis on preventive aspects. This is illustrated in the British Medical Association report of the Committee on Medical Education, 1934, that served as the point of departure for the final report and resolution of the General Medical Council on medical education, 1937. While it is true that medical education today is the most expensive branch of higher education, it should not prove insurmountable to incorporate progressive trends in India, especially in the preventive aspects of instruction. The provision of organized refresher courses is badly needed.

Reference has been made to the recommendations of the Trained Nurses Association of India for immediate steps to improve the training of nurses. It would be advantageous if the present status of nursing in India could be reviewed along the lines of the Inter-Departmental Committee on Nursing Services, Interim Report (1939—Great Britain), and more particularly the Memorandum of the College of Nursing submitted to the Inter-Departmental Committee on Nursing Services. One is certain that such a review would result in initiating steps which would go far to improve the present backwardness of nursing. In particular, steps should be taken to assure that the scope of training of health visitors is extended to give the same emphasis to school

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health and industrial health as is now being received by maternity and child welfare.

The problem of an adequate number of medical personnel must also be considered urgently in a planned manner. The example of less than 5,000 nurses for a population of 400 million precludes further comment. The solution of this problem cannot be found merely in terms of the scope of existing syllabi, but must take account of the international trends in the training of medical and auxiliary personnel. The solution will also involve much more training through the medium of Indian languages.

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AGRICULTURE—which includes cattle-breeding and dairy-farming as well as the production of crops from the soil—is India's most important industry, in which nearly three-fourths of the people are directly engaged. Even the basic factors—geography, climate, soil and the cultivator—vary enormously from place to place, and every general statement needs qualification; but India is already one of the foremost agricultural producers of the world, and it is clear that, if the twin dangers of soil erosion and unrestricted cattle-breeding can be overcome, there is great scope for improvement, mainly through the evolution of new varieties of existing crops.

Sir Tiruvalyangudi Vijayaraghavacharya, with his wide and varied experience, is well fitted to survey the situation. He has been a District Officer, Secretary in the Survey and Settlement Departments, Director of Land Records, Director of Industries, Director of Fisheries, a Member of the Indian Legislative Assembly and Diwan of two Indian States. He was the leader of an Indian delegation to the International Agricultural Conference at Rome (1930), Chairman of an All-India Conference on Rural Reconstruction at Indore and Vice-Chairman of the Imperial Council of Agricultural Research for the first six years of its life.

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THE LAND AND ITS PROBLEMS

The Importance of Indian Agriculture

NEARLY three-fourths of the people of India are directly engaged in or dependent on agricultural and pastoral pursuits. Nearly ninety per cent of the people live in villages and even those living in cities, except perhaps in the northern provinces, look back to the villages as their homes. The mill operative in Bombay, when there is a strike or lock-out, goes back to his village in the Konkan. To own a field or acquire one is the aspiration which gilds the daily monotony of many a townsman's life. Ploughing, sowing and harvesting are occasions of semi-religious significance. In many parts of India at weddings the bride and bridegroom sow and grow in pots two cereals, three pulses and two oil-seeds during the festive week as a symbol of the immemorial art on which the country's life depends and of the strong, almost sacred ties which bind the man and the woman to the land. Farming is not a business, it is a tradition.

The importance of Indian agriculture arises not merely from the fact that it furnishes the means of subsistence of one-fifth of the human race. From the point of view of world production and supply of materials for the world's industries, India is one of the foremost countries today, and it is not at all unlikely that it will in the not distant future occupy the first rank. An example of what may happen is ready to hand. As recently as 1929 India in the matter of sugar was an importing country. It imported as much as a million tons of sugar from foreign countries, mainly Java, for its home consumption. Today, and this position was reached five years ago, it not only produces all the sugar it needs, but has an exportable surplus. India

is the largest cane-sugar producing country in the world. What is true of sugar is true of other important commodities. India shares with China the primacy for production of rice. In cotton it ranks next only to the United States. It leads the world in the production of groundnut and ranks next only to Argentina in linseed. In jute and in lac it possesses almost a monopoly. In millets India ranks with China and Africa as one of the three main producing regions. Of tea it is one of the largest exporters to the United Kingdom, ranking next to China as the world's biggest producer. India holds the world's record for its cattle population, the United States coming in second at a great distance.

Possible Expansion of Cultivation

The figures of India's agricultural operations are impressive. The area annually brought under the plough in British India is 267 million acres of which over 52 million acres are artificially irrigated. Of the 267 million acres, 217 millions are cultivated with food crops. In the official statistics about 150 million acres are classed as land totally unfit for cultivation and another equal quantity as 'culturable waste' though not yet brought under the plough. The last area is what is usually referred to in discussions about food supply and agricultural colonization as land available for expansion of agriculture. In the last one hundred years, thanks to internal security, freedom from external invasion, development of communications and the rise of domestic and foreign trade, the population has expanded at a rate which causes pleasure to a few and lively anxiety to many, who consider that India's teeming millions are outstripping the means of subsistence. As a result, in most parts of India all the land suitable, or easily made suitable, for cultivation has been taken up, and what remains is, generally speaking, land on the margin of fertility or land which is potentially fertile.

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but which can be reclaimed from 'culturable waste' only at an expense which is beyond the means of the ordinary individual of the middle classes. It is possible that with the vast wealth accumulated by enterprising industrialists during the war years and the scarcity of means of profitable investment, capitalists may, when peace once more returns, turn their attention to the reclamation of large tracts of land which are now malaria-infested jungle. Virgin land, particularly land under prickly pear, is often marvellously fertile. The chief difficulty is want of information about the extent and nature of the land fit for tillage but now unoccupied. In the absence of private enterprise, the state must step in and, before inviting colonists to settle on the land, it must clear the jungle, sink wells for irrigation, make roads, start anti-malarial measures and provide expert agricultural advice.

Factors determining Indian Agriculture

The striking feature of Indian agriculture is its amazing variety. The cropping and agricultural practices vary to an extraordinary degree; to such a degree indeed that it may seem impossible to lay down any general rule or make any general statement which cannot immediately be contradicted by examples to the contrary. Though the differences are at first sight puzzling they can be explained, and general principles of a simple nature can be formulated. Like agriculture in every country, India's agriculture is determined by four factors, her geography, climate including rainfall, soils and the type of population. Only India is such a vast country, comprising territory both in and out of the tropics, continental land and peninsular land, rainfall varying from less than five inches to five hundred inches, hot, damp country with vegetation of tropic luxuriance and country which is a bleak desert with a climate of almost North European severity, that observations which are true of one region may not be

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true of another.' And even within these large, natural divisions, conditions vary from district to district, subdivision to subdivision, *one village circle to another*, so that before giving advice as to possible agricultural improvements, minute regard must be had to local circumstances.

Natural Agricultural Divisions

The main division that emerges from a study of the geographical and climatic conditions of the country is that between northern India and southern India, between continental India and peninsular India. The former has a winter which in the Punjab, Kashmir and Baluchistan exceeds sometimes the European winter in severity and a summer which the dweller in the southern provinces finds as hard to put up with as the native of western Europe. The flowers, fruits and vegetables of the temperate regions of the world flourish in the winter on the plains of northern India, and in the spring and summer many of the products of the tropics appear in an abundance and cheapness that the vegetarian from the south may well envy. In southern India, on the other hand, there is no winter; the season is practically uniform all the year round and conforms to the dictum of an old Governor of Madras who, when asked what the climate of Madras was like, is supposed to have replied, '*Nine months hot, three months hotter*'. The fruits, flowers and plants of the temperate region grow only on the hills or on the elevated tablelands and in quantities which make them unavailable at popular prices. While many crops are common to both northern and southern India, certain of them predominate in the north, and certain others in the south.

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Rice and Wheat

Roughly speaking, northern India is the home of the wheat and southern and north-eastern India are the home of rice. Rice is a negligible crop in the Punjab, just as wheat is in Madras. There is a debatable border-land in central India where rice and wheat contend for mastery and the consumer prefers either according to prevailing prices. But it will be a mistake to suppose that rice is negligible either from the point of view of production or of consumption in the United Provinces. The United Provinces produce what are considered by Indians to be some of the finest rices, Dehra Dun rice having an India-wide reputation.¹

Rice is a popular crop practically throughout India (always excepting the Punjab) even as far north as the Kashmir valley; it is the country's favourite food, and an average of eighty million acres are under rice cultivation, while wheat is a poor second with an average area of thirty-two million acres. This is partly due to the fact that the rice plant in general thrives, however heavy the rainfall. In eastern Bengal and Assam there is a deep-water variety of the plant which literally keeps its head always above water; after heavy rains and flood, which would have submerged other plants, this rice-plant grows overnight to a height to overtop the water. Another reason for the cultivator's preference for rice is that land under rice seems to be able to manure itself provided the supply of water is adequate. In the great deltas of India rice is hardly ever manured, yet year after year the same land produces large yields.

¹ It may be observed in passing that there is a curious difference in the judgement of Indian and European markets as regards rice, the European preferring the bold, translucent grain while the Indian prefers a small, fine rice.

Other Crops

Similarly, barley, gram, mustard, rape-seed and linseed predominate in the north, while ragi, horse-gram, groundnut, castor seed and gingili take their place in the south. Mustard oil is the favourite edible oil of northern India, while gingili (*til*) oil and coconut oil are the popular oils of south-Indian cookery. All the three oils are first-class culinary oils, and to the poor man who cannot afford to use *ghee* they are excellent substitutes. In fact, in the preparation of certain dishes they are preferable to *ghee*. Oil cakes, obtained after the oil has been pressed from the seed, are an important cattle food all over India and are also valuable as manures, particularly for sugar-cane fields. The cane cultivation on the Deccan canals in Bombay, which produces yields as heavy as anything in Java, Cuba or the Hawaiian islands, owes its productiveness to the application of groundnut cake to the fields.

The pulses are an important range of crops. They help to fertilize the land and supply the organic matter of which the soil is often destitute. They are also an important element in human and animal nutrition, particularly valuable to the vegetarian, whose food, consisting mainly of carbohydrates, is normally deficient in proteids. Gram (*channa*) or Bengal gram—though, curiously enough, Bengal hardly produces any—is the main pulse crop of northern India, while red gram (*arhar* or *tuar*) is the leading pulse of southern India.

It is believed that there is not a single coconut tree in the Punjab. The nature of the soil, the low temperatures in the winter, the extreme dryness of the atmosphere, and the absence of sea air are probably accountable for this.

Sugar-cane is essentially a tropical plant, but paradoxically enough the northern provinces lying outside the tropics are

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responsible for 97 per cent of the total cane-production of India. The tract of country lying north of the Ganges and east of the Gogra, forming the modern district of Gorakhpur and the districts of north Bihar, is the ancient home of the indigenous cane of India, the manufacture of white sugar dating back to Vedic times. This cane is a thin reed-like cane, while the cane of peninsular India is the thick variety known as the 'noble' cane, which not only yields a larger quantity per acre, but is much richer in sucrose content. The noble cane has been imported from New Guinea. The improved varieties of cane bred at the Research Station at Coimbatore, which have replaced the *deshi* variety in three-quarters of the sugar area in northern India, are of medium size, intermediate between the thin and thick varieties. They have been evolved by crosses between the noble cane and the wild cane of Northern India, the *Saccharum spontaneum*, the *kans* grass. It is a curious fact that research workers in both Java and India have discovered that without a mixture of wild blood, a variety immune to disease cannot be found.

Crop Seasons

The two well-marked seasons in northern India naturally lead to two well-defined crop seasons. The commencement of the monsoon rains in June inaugurates agricultural operations. The sowings made in the rains lead to the harvest in the autumn which is known as the *kharif* crop. The second crop season begins in the autumn. The winter is usually a rainless period, and in the absence of artificial irrigation the crop matures in the moisture left in the soil by the monsoon, the heavy dews of the winter and any occasional or casual rain that the cultivator's good luck may bring. This crop is harvested in the spring and is known as the *rabi* crop. The principal *kharif* crops are wheat, rice, *juar* (*cholum*), *bajra*

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(*cumbu*), maize, cotton and gingili (sesamum or *til*), while the principal *rabi* crops are wheat, barley, gram, linseed, rapeseed and mustard.

In the south of India the words 'spring', 'summer' and 'winter' are practically meaningless. It is one long summer, and the distinction between the two crop seasons, if it is anything more than a distinction in time, is based on the fact that the earlier crop in certain areas depends on the south-west monsoon (June to September), while the later one depends in certain other areas on the return or north-east monsoon (October to January). The *kharif* and *rabi* of southern India are mere early and late sowings of the same crops, but, generally speaking, the second crop is more valuable than the first.

Rainfall and Protected Areas

The vital factor with regard to Indian agriculture is the rainfall, which must be described in some detail. The greater part of the rainfall of India is received between June and October from the south-west monsoon. This is the chief season of rain over most of the peninsula and over almost the whole of northern India. Over a great part of the western half of peninsular India, including nearly the whole of the Bombay province, the Portuguese territory of Goa, that part of the Madras province lying between the Western Ghats and the Arabian Sea, and the States of Cochin and Travancore, the rainfall is practically confined to this season. In the south-eastern portion of the peninsula the season of heaviest rainfall is from October to December, the period of the north-east monsoon. In most years the Central Provinces, Berar and Hyderabad also receive during this season some showers of rain which, though usually small in amount, are of great agricultural value, especially to the wheat-growing districts. The winter is usually a rainless

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season in northern India, but the North-West Frontier Province and the extreme north-western districts of the Punjab receive at this period about half of their average rainfall. In some years the winter rains extend to the submontane districts under the Himalayas, the plains of the Punjab and the north-western districts of the United Provinces.

From the point of view of rainfall, India can be divided into three zones:

- (1) *The zone of heavy rainfall*, with a minimum of 100 inches and going up to 250 inches in one section and to nearly 500 inches in the other. The first lies along the west coast of the peninsula where the south-west monsoon, striking the Western Ghats, precipitates on their outer slopes a rainfall of 100 to 250 inches. The second extends along the outer ranges of the Himalayas, widening out south of Sikkim to include Bengal and Assam, where Cherrapunji on the Shillong hills holds the world's record.
- (2) *The zone of moderate rainfall*, ranging from 40 to 70 inches. This region lies in four sections. The first extends from the Bay of Bengal on the east to the western boundary of Bhopal in central India. The second stretches from the Himalayas in the north to the Godavari river in the south. The third section is the east coast of the peninsula from the north of Madras to the south of Tanjore. The fourth lies along the eastern side of the Western Ghats and goes north up to Baroda. To the traveller nothing in the way of rainfall is more amazing than the rapidity with which the rainfall decreases as the clouds drift eastward from the summits of the Western Ghats: on the top of the Ghats anything like 250 inches or over, between the Ghats and the sea 100 to 160 inches, and east of the Ghats 40 inches and below.
- (3) *The zone of low average rainfall*, below 40 inches.

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The whole of India not comprised in the first and second zones lies in this class. In many parts of this area the rainfall is both scanty—never exceeding 25 inches—and precarious. In western Rajputana, western Punjab, Sind and Baluchistan the rainfall in many years is five inches and below.

The average rainfall over the whole of India, excluding the Himalayas and the Western Ghats, has been computed at 42 inches in the year. At first sight it may seem a surprising statement, but it is true that, taking India as a whole, the rainfall varies but little from year to year, the greatest variation amounting to never more than seven inches in excess or defect of the general average of 42 inches. What really matters to the farmer is not the all-India average rainfall, but the unequal distribution of it throughout the seasons, its still more irregular distribution over the surface of the country, and its liability to failure or serious deficiency. The only parts of the country which are naturally more or less secured against famine by an assured and abundant rainfall are eastern Bengal and Assam and the country between the Western Ghats and the Arabian Sea.

State Irrigation Works

Where Nature has not been kind to the cultivator, the great irrigation works constructed by the state have granted a protection which Providence has denied. I refer to the numerous large works which make the supplies of the larger rivers of the country available to the fields. A few of these were made before the present Government came in. The Grand Anicut across the Coleroon in southern India is the oldest of them, dating from the days of the Chola kings of Tanjore. Some of the inundation canals on the Indus and its tributaries were constructed by the old Muslim and Sikh

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rulers of the Punjab. More important were the two canals made by the Mughal emperors of Delhi, one on the right or western bank of the Jumna and the other on the left bank. However, little was done in this direction till the present Government stepped in. The agricultural prosperity of the Punjab is really a creation of British rule. At the present day 33 million acres of land in India are irrigated from state irrigation works and the annual value of the crops raised by them is 1,100 crores of rupees.

Famine

Between these two areas, one protected by Nature and the other by the wit of Man, lies a vast tract of a million square miles, no portion of which can be said to be secure against the uncertainties of the seasons and the spectre of famine. Probably the tracts most exposed to famine in India are the Indian States of Rajputana, the British districts of Sholapur, Ahmednagar and Bijapur in the Bombay Deccan, and next to them the Deccan districts of Madras. Some broad propositions in this connexion can be laid down, namely:

- (1) Speaking generally, the lower the rainfall in a given tract the greater is its liability to serious deficiency from the average.
- (2) Famine is not usually the result of one dry year. The worst famines have been the result of two or even three dry years in succession.
- (3) Tracts in which the suffering from famine has at times been most intense are not necessarily those in which the rainfall is most liable to periodical defect. On the contrary, the effects of drought when it does come are felt acutely in tracts like Gujarat, Malwa and part of the Central Provinces, which owing to the sufficiency of the rainfall over a long series of years have come to be regarded as immune, and where protective irrigation works

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have in consequence been neglected and the people have become softened by prosperity.

- (4) The quality of the soil, the classes of crops cultivated and the character and resources of the people are factors which modify the effects of a deficiency of the rainfall. The last great famine was that of 1899-1900. It demonstrated the soundness of every one of the above propositions. This famine affected an area of half a million square miles with a population of sixty millions; at its peak four and a half million persons were under state relief, and fifteen crores of rupees were spent by the state.

Thanks to the building of a network of railways, the improvement in communications and the expansion of irrigation, famines have ceased to be the spectre which haunted the Revenue Officer and the cultivator in the last generation. It is now possible to move grain rapidly from a tract of plenty to a tract of scarcity; present-day famines are famines more of money than of food; the *Famine Codes* have standardized relief measures, and, given District Officers of energy and humanity, deaths from starvation should not occur. The old-time Revenue Officer was accused of postponing the evil day of declaration of famine. His present-day successor is more liable to the accusation of pauperizing the countryside by over-generous gratuitous relief. Deaths which now occur during famines or after them are due to two causes: (1) *Cholera epidemics break out, for, in a season of prolonged drought which dries up the ordinary sources of water-supply, people are driven to drink any kind of water.* Owing to much more careful sanitary administration cholera does not now visit famine relief camps or their vicinity, but villages in the districts are still subject to its visitation. (2) Famine weakens the resisting power of the people affected by it, and the malaria that breaks out after the rains which end the famine finds easy victims.

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While human mortality has thus been eliminated or reduced, the problem of cattle mortality still persists. In the three years' drought that visited Rajputana in 1938-40, thousands of cattle perished, and it was a familiar sight to see on the sides of the railway lines that run through the country the skeletons of dead cattle. The adjacent States of Central India generously threw open their grass lands to cattle emigrating from the afflicted tracts, but only a fraction of the cattle-owners could take advantage of this, in spite of the very efficient arrangements made by the State authorities for facilitating the movement of the animals.

Soils

The soils of India may broadly be classified under four heads:

- | | |
|------------------------|------------------------|
| (1) The alluvial soils | (3) The black soils |
| (2) The red soils | (4) The laterite soils |

Alluvial tract. The alluvial soils are the most important from the agricultural point of view and the most fertile. They cover the greater part of northern India between the foot of the Himalayas and the northern slopes of the Vindhya, and extend in a narrow fringe round the coast-line of the peninsula, increasing in width at the deltas of the great rivers which flow down from the Western Ghats or the tableland of central India. Territorially, they occupy the greater parts of Sind, northern Rajputana, the Punjab, Delhi, the United Provinces, Bihar, Bengal and half of Assam and of the East and West Godavari, Kistna and Tanjore districts of Madras. The whole of the vast Indo-Gangetic plain is comprised in this area of 300,000 square miles, its width varies from 300 miles in the west to less than 90 miles in the east, and the depth as far as can be ascertained exceeds 1,600 feet below the ground surface. The soils are derived

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mainly from the Himalayas and are deficient in phosphoric acid, nitrogen and humus, but not in potash and lime. They are of marvellous fertility, consisting of heavy rich loams producing under irrigation splendid crops of rice or sugar-cane, in fact a wide variety of crops. One has only to visit the districts in north Bihar to see for oneself how generous the soil is and what a dense population it supports. Sugar-cane grows in this area without irrigation; indeed even outside this tract, throughout the eastern districts of the United Provinces and Bihar, three or four waterings are sufficient to mature the crop, while in Bombay and Madras thirty to forty waterings are required.

The alluvial tract is a vast, level plain and presents a drab monotonous appearance to the traveller accustomed to the rolling, mountainous country in the peninsula. But what it lacks in outward seeming it gains in substance. The sub-soil water is generally close enough to the surface to place the cost of lifting it within the means of the cultivator. Wells are numerous and cheap, the two provinces of the Punjab and the United Provinces owning ten million wells out of the fourteen millions or so in the whole of British India.

This tract is traversed by all the great perennial rivers whose sources lie in the snow and glaciers of the Himalayas or under the assured and abundant rainfall of the Western Ghats. The level country and the absence of hills make it easy and comparatively cheap to make canals and distribute the water over the length and breadth of the land. No wonder that within this tract are found all the great canal systems of India. But the very physical conditions which facilitate canal irrigation constitute an obstacle to the construction of reservoirs for the storage of water for use in the dry season. Tanks, which are so important in southern India and Mysore, are practically absent here.

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The large area classed under 'tank irrigation' in the United Provinces is really irrigation by water lifted from the *jhils*, natural depressions which are found in large numbers, more especially in the eastern districts of the submontane and central tracts. In some of the rice districts of Bengal, the slightly undulating nature of the country admits of the water being stored in shallow tanks to tide over a break in the rains.

Red soils. These cover the whole of peninsular India outside the area of the Deccan trap (described below under black soils) and of the narrow strip of coast alluvium. They comprise the whole of Madras, Mysore and south-east Bombay and extend through the east of Hyderabad and the Central Provinces to Orissa and Chota Nagpur. Northwards the red soil area extends into and includes the greater part of the Sonthal Parganas and the Birbhum district of Bengal, the Mirzapur, Jhansi and Hamirpur districts of the United Provinces, the Baghelkhand States of Central India, the Aravallis and the eastern half of Rajputana. In this widely dispersed tract, the red soils differ greatly in consistency, depth and fertility. They vary by intermediate stages from the poor, thin and gravelly, sandy or stony and light-coloured soils of the arid uplands, where only a poor crop of bajra (*cumbu*) can be grown, to the rich, deep, bright-red, dark-brown, or black coloured fertile loam of the lower levels and the bottoms, which under irrigation produce a wide range of excellent crops, sometimes as good as the products of the yellow loam of the alluvial tract of Northern India.

The red soil tract is traversed by the great rivers rising in the Western Ghats and flowing eastward into the Bay of Bengal, but for the most part their channels are too deep and their gradients too small to admit of their being utilized for irrigation outside of their narrow valleys. Even when the water can be raised to the level required for commanding

the country, the broken and uneven surface renders it impossible to construct at a reasonable cost systems of canals at all comparable in size to the great canals of the alluvial tract. On the other hand, the broken and undulating nature of the surface is admirably suited for storage of the local rainfall in tanks. Madras has 36,000 tanks and Mysore 23,400 tanks. The northern provinces have no tanks worth speaking about. Nearly all the irrigation from tanks is in the red soil area. As regards wells, there is no permanent underground flow as in northern India, and the wells, being usually dependent on mere local percolation, have to be of large diameter. Their size and the rocky nature of the substratum render their construction much more expensive than in the alluvial tract. Two-thirds of the well area is comprised in the alluvial country. Nearly two million wells are used for irrigation in the United Provinces and the Punjab as against two-thirds of a million in Madras, one-fourth of a million in Bombay and a mere 15,000 in the Central Provinces. As a set-off, the wells in Madras and Bombay have a much longer life than those in the United Provinces and the Punjab where, especially in the former province, a large number of wells are temporary in character. An interesting fact is that while the area irrigated by a well is two to four acres in Madras, in the Punjab the average is eleven acres; there are many irrigating double that area, and incredible as it may seem there are individual wells which water as much as fifty acres.

Red soils are deficient in nitrogen, phosphoric acid and humus, but potash and lime are generally sufficient.

Black soils. The black cotton soil, which is the name usually given to this type of soil because of its colour and its suitability to the cultivation of cotton, extends over the greater part of the Bombay province, and also Kathiawar, the whole of Berar, the western parts of the Central Provinces, central

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India and Hyderabad, large areas in the four Deccan districts of Madras, and the Ramnad and Tinnevely districts of the extreme south. The tract is usually divided into two sections, (i) what is called the Deccan trap area, which comprises all the 'black' area outside Madras, and (ii) the Madras black area. Both are usually uninteresting in appearance, being a vast treeless plain, what trees there are being the *babul* and the neem or *margosa*. Low ranges of bare denuded hills bound the horizon, and isolated crags, fantastic in appearance, sometimes poised perilously on bigger rocks, dot the landscape. Where a large hill rises in the middle of a plain of black soil, it will nearly always be found surrounded by a fringe of red land. The soils are highly retentive of moisture and extremely sticky when wet. In the dry season the damp soil contracts, producing wide and deep fissures which house the scorpion and the snake. One good rain is necessary before the stiff heavy soil allows itself to be ploughed by the deep Deccan plough, and when this holds off the ryot can do nothing except wait on the pleasure of Providence. But with good rains, without much effort on his part this rich soil produces magnificent crops of cotton and jowar (*cholum*).

The black soil is generally believed to be unsuitable for artificial irrigation; there are practically no canals or tanks in it and the area watered from wells is inconsiderable. The failure of the Kurnool-Cuddapah canal is the stock instance quoted in favour of this belief. But in the Bombay section, the response to irrigation has been more favourable, and soil investigations made by the Madras Government in connexion with the Tungabhadra project seem to point to the conclusion that, with suitable precautions, the response may be equally favourable in Madras.

The black soils are generally deficient in nitrogen, phosphoric acid and organic matter, but not in potash and lime.

Laterite soils. Laterite is a porous clayey rock found on

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the summits of the basaltic hills and plateaus of central India, along the Eastern and Western Ghats of peninsular India and in Assam. The mechanical weathering of this rock has given rise to extensive areas not only of sedentary but also of alluvial soils which, owing to their character and composition and the peculiar agricultural problems associated with them, must be placed in a category different from the great alluvial soils of India. The plantation districts of southern India, Bengal and Assam] come within this category. The distinguishing peculiarity of these soils is their acidity, and the main agricultural problem is the correction or amelioration of this acidity. Tea, however, loves an acid soil and sometimes the problem is to make a particular soil acid enough for it.

These soils vary in quality. On the higher levels they are exceedingly thin and gravelly, with little power to retain moisture. On lower levels and in the valleys they are dark, heavy loams and clays which readily retain moisture and produce good crops, particularly rice. The soils are deficient in potash, phosphoric acid and lime, but humus is present in quantities decidedly higher than in most other Indian soils.

Diminishing Fertility

A statement often made is that much of the most valuable agricultural land in India has been cultivated for centuries, the continuous process should be exhausting its fertility, and consequently there should be progressive deterioration of the soil. But observed facts do not support this view. Take, for instance, the Tanjore delta which is perhaps one of the oldest cultivated tracts in India. That the delta in the upper reaches of the Cauvery river must have been under continuous rice cultivation for at least a thousand years is proved by the fact that the Grand Anicut was built by a great Chola king a thousand years ago. In all likelihood, the culture of

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rice in that tract was centuries anterior to the building of that dam. The most fertile portion of the delta, known popularly as the 'breasts' of the Chola kingdom, still continues to produce as heavy crops as it used to do in old days. Unfortunately, there are no records of crop outturn over a long period of time, but as far as can be gathered from local inquiries there was no proof, not even an allegation, that there had been a diminution in the fertility of the soil. What is the explanation?

The Royal Commission on Agriculture in India made an elaborate inquiry into the question of general progressive decline in fertility. It was a most important point, as, if true, it would have pointed to an alarming state of things. Doubtless the remedy is not beyond the resources of science, but the poverty of the mass of the ryots precluded the application of any expensive fertilizers. The Commission came to the conclusion that where land is cropped year after year, when the crop is removed and no manure is added, natural gains balanced the plant food materials removed by crops, a stabilized condition was reached, and a low but permanent standard of fertility is established.

To the above conclusion I would add the following facts. The Indian ryot, who though often illiterate is certainly not deficient in shrewdness, intelligence and practical wisdom, through ages of inherited experience has learnt to appreciate the value of a regular rotation of crops and knows that the fertility of his soil cannot be maintained at the same level if the same crop is taken too often in consecutive years. He knows too which crops are particularly exhausting and which exercise an ameliorative influence on the soil. In this matter, there is nothing which an expert agricultural officer can teach him. As an example of the ryot's skill, let me mention the system, so common, of growing mixed crops, usually of gram or pulse with a cereal.

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Nothing has upheld the fertility of soils more than The scientist's explanation is that Indian soils are now deficient in nitrogen and that the roots and the leaves which fall from the pulse plants, mainly the *arhar* or *tuar*, are in that element.

Manuring

The majority of the cultivated Indian soils are well above the average in fertility. Particularly is this the case if due weight is given to the heavy cropping to which they are subjected and to the small quantity of manure that is applied. Their chief defect is the low content of organic matter. Given a supply of this material in a suitable condition for rapid nitrification the response both in the rate of growth and in the total yield is marvellous. The highly manured lands round the villages yield crops luxuriant in comparison with those of the outlying unmanured fields. What manuring on a liberal scale can do is exemplified on a large sugar-cane farm in the Nasik district of Bombay. Till a few years ago the land covered by the farm was in the hands of ordinary ryots who raised just the ordinary crops of the district on it. An enterprising industrialist bought the land, put 1,500 acres under cane, and manured it at the rate of Rs. 200 to an acre with farmyard manure, oil-cakes and ammonium sulphate. The cane yield over the whole area now averages per acre 53 tons, on 700 acres 67 tons, and on 20 acres as much as 100 tons. These figures are as good as any country's in the world. There is nothing exceptional about the quality of the soil. This only shows that if the ryot has the means and the enterprise, Indian soils will respond generously. There is no question of permanent deterioration.

The manurial problem of India is mainly one of nitrogen deficiency. India depends almost exclusively on the recupe-

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rative effects of natural processes to restore the nitrogen annually removed in the crops, as little is returned by the cultivator. Much of the farmyard manure is burnt as fuel and the nitrogen contained in oil-seeds, grains, hides and bones goes out of the country in exports. But nitrogen is still left in green manures, such as *sann*-hemp and *dhaincha*, oil-cakes, where the seed is crushed in India itself, and leguminous crops such as gram or pulse grown in rotation with cereals, composts and night-soil. The value of the first three sources has always been recognized and is now getting increasing recognition; but there is considerable room for expansion in the use of compost and night-soil. In this respect we may well copy China, where artificial fertilizers are as little used as in India, but where organic refuse of any kind, be it town or village sweepings, leaves, other decomposed vegetable matter, waste of men and cattle, of horses, swine and poultry, herbage, straw, garbage and sewage, all finds its way to the field as a fertilizer. Whatever may be the sanitary objection to the use of fresh night-soil, the use of it in the form of poudrette is unobjectionable.

As to the form in which the nitrogen should be given, the predominant opinion is for giving it as organic nitrogen, though, if the ryot could afford it, some would prefer to give part of it in the inorganic form.

Soil Erosion

The seriousness of the problem of loss of soil by erosion has not been adequately realized till recently. Spectacular evidence of this loss is afforded by the United Provinces, where villages once surrounded by valuable, fertile fields now lie in a network of ravines carved out of the soft mud of the Jumna by uncontrolled drainage. Less striking, but even more serious, losses of soil have taken place by the action of floods in the Chambal and other rivers flowing

through central India, Gwalior and the Central Provinces. A great deal of soil belonging legitimately to these territories is now at the bottom of the Bay of Bengal. The loss is not confined, however, to these or any other special tracts. It is taking place all over India, except perhaps in the rice-fields where ridging has conserved the soil. Reckless felling of forests by the cultivators has intensified the evil by producing floods where none existed before. Much of the infertility of districts like Bellary and Anantapur is attributable to the criminal felling of trees on the hills. The process may be seen today at work on the Aravallis; the smiling fields of Udaipur will in another fifty years be lodged in the sea as surely as the blown sand of the Sind desert will engulf the fair city of Jodhpur. The process was going on unchecked till recently in the plantation districts of Bengal, Assam, Madras and Mysore. The traveller in the black cotton soil districts of the Deccan during the rains can see the universal scouring of the fields and the wholesale loss of what is the ryot's most valuable asset. The loss on a single acre of even moderately sloping land has been anything from 50 to 150 tons per annum. The remedies for this are:

- (1) Afforestation, as of the Jumna ravine lands in the United Provinces.
- (2) Terracing and drainage of sloping land, as in the tea estates of Assam.
- (3) Bunding of fields, as in the Bijapur district of Bombay.

Dry Farming

The first remedy suggested is in the hands of the state. The second and third are for the farmer, with encouragement where necessary from the Government. What an enthusiastic Collector can do to stimulate private action can be seen in Bijapur, where the name of the late Mr Naik will

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for long be held in honour. The two latter remedies serve a dual purpose. They prevent erosion and conserve moisture, which is of the essence of the dry farming schemes now in progress in Hagari, Sholapur, Bijapur, Raichur and Rohtak. These schemes are based on methods devised in the dry agricultural areas of the United States and are intended to save farmers from famine in areas of precarious rainfall where irrigation is not possible. The methods adopted in the Bombay Deccan, which has practised them longer than elsewhere, are:

- (1) Ploughing the land with a turn-wrest plough at least once in three years in medium and deep soils.
- (2) Bunding or terracing the land, and division into compartments to control the movement of rain-water.
- (3) Application of farmyard manure at five cartloads per acre, or a green manure like *sann*-hemp every year.
- (4) Four or five harrowings during the monsoon before sowing.
- (5) Sowing at a moderate seed rate of 4 to 5 lb. per acre with a wider drill, so as to keep a space of 18 inches between rows.
- (6) Stirring of the surface soil by bullock-hoes worked between the rows.

The Holding—Subdivision, Fragmentation, Consolidation

India is a country of small holdings. The number of cultivated acres per cultivator was computed in the Census of 1921 to vary from $2\frac{1}{2}$ acres in the United Provinces to 3 acres in Bengal and Bihar, 5 acres in Madras, $8\frac{1}{2}$ acres in the Central Provinces, 9 acres in the Punjab and 12 acres in Bombay. In the 21 years that have elapsed the average size of the holding has in all probability decreased owing to the law of equal partition amongst Hindus and Muslims. The figures are averages. A detailed inquiry made in 2,400

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plots to secure an even level over the whole land, and a man's land is often split up into smaller plots for convenience of cultivation. A small beginning has however been made by the formation of a few consolidation co-operative societies.

The Ryot and Agricultural Improvements

The ryot is unlettered, but this by no means amounts to saying that he does not know his business and is lacking in practical intelligence or shrewdness. Like cultivators all the world over he is conservative, but he knows a good thing when he sees it and will quickly take it up if he is satisfied that it is a useful proposition not beyond his slender means and his tiny holding. Mere theories propounded by the expert agricultural officer or by the learned townsman do not appeal to him unless visibly demonstrated. That is the use of demonstration farms. Look at the way in which in the opening years of this century the indigenous groundnut of Madras was replaced by a better variety from Mauritius and spread from the lighter soils of Madras to the heavier ones and from thence to nearly all over India. An area of 600,000 acres has now expanded into seven to nine million acres, nearly half the world's production. Take a more recent and even a more striking instance. The improved varieties of sugar-cane have replaced over three-quarters of the old *deshi* canes in the last twelve years, and India is now the world's largest cane producer.

The greatest scope for agricultural improvement lies in the evolution of new and improved varieties of existing crops. In cotton India's average yield per acre is as low as 90 lb., compared with the 150 lb. of the United States and the 450 lb. of Egypt. In rice the Indian average of 750 to 900 lb. compares not unfavourably with that of Indo-China and Siam, but is far below America's 1,500 lb., Egypt's 2,000, Japan's 2,300 and Italy's 3,000 lb. In wheat India's 650 lb.

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is below Australia's 710, Argentina's 780, America's 850, Canada's 975 and Europe's 1,150. Russia's average is the same as India's. Similarly the Indian average in sugar-cane is below that of Java and Hawaii. Much of the agricultural future of India lies in the hands of the plant-breeder.

When once a good variety has been established, it is the work of the agricultural officer to multiply the seed and issue it to growers, care being taken to maintain its purity. A regular organization has been evolved for this and is functioning with success, especially in cotton for which large grants have been made by the Indian Central Cotton Committee.

Marketing

Next in practical importance is the provision of facilities to the grower for marketing his produce. A wide divergence between farm-gate and retail prices is noticeable in all countries, but in a country like India where even now villages at a distance from the railway lines are badly served by roads connecting with their nearest markets, the divergence is extreme. The gap widens if a comparison is made between farm-gate prices and the prices not at the nearest market town, but at the large provincial centres from which the products are sent off in the case of internal trade, at the shipping centres in the case of external trade. An agricultural marketing department attached to the Imperial Council of Agricultural Research has been at work for the last eight years, and improvements in marketing in the way of grading, establishment of standard qualities and kindred matters may result in better prices to the grower.

Mechanization

Improvements in agricultural implements suited to local conditions are being made and should continue to be made. But it is doubtful if there is scope for any considerable

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mechanization of agriculture. Machines are suitable for new countries with a sparse population and large farms such as Canada, Australia and Argentina, but not for a thickly populated country with small holdings. The serious effects of mechanical cultivation in displacing human labour and driving the peasantry into overcrowded towns should not be overlooked.

Scientific Research

If reference has not been made to the work done by scientific bodies like the Imperial Council of Agricultural Research it is not because the value of that work is not recognized. The establishment of the Council is one of the landmarks in the history of India's agricultural progress. In the thirteen years of its existence it has justified the expectations of its founders, given a strong stimulus to research work in the agricultural departments and in the Indian universities, and built up an enthusiastic band of indigenous research workers. But both space and the nature of this pamphlet forbid a detailed reference to its activities.

Animal Husbandry

Agriculture includes not only the production of crops from soils, but also cattle-breeding and dairy-farming. The capital fact in English farming is the intimate union of stock-breeding with that of crop-production. In the early stages of the history of English farming, England suffered from what has been called the 'fundamental weakness' of the farming system, that the production of grain for human food was separated from the production of fodder for animal food. But this was remedied in the eighteenth century when the practice common in Flanders was copied, and a system of rotation introduced: first wheat, then turnips, then barley and then clover. The turnips and clover were fed to the animals

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and the wheat and barley went to the humans. This produced not only much more meat than before, but also much more farmyard manure and so bigger crops of wheat and barley. The result is summed up by Sir John Russell in the saying, 'More cattle, more manure; more manure, bigger crops; bigger crops, more cattle'.

Unfortunately, in India, except in a few special cases, there has been a complete divorce between cultivation of land and breeding of cattle. Instead of there being an ascending scale of improvement, there has been a progressive deterioration in farm cattle. The cattle population of India is the largest in the world, but is probably in general efficiency (always subject to the recognition of the fact that there are many excellent breeds of draught and milking cattle) one of the poorest. In the last one hundred years, owing to the enormous increase in the human population of the country, there has been a considerable extension of cultivation. Instead of the extension being met at least partly by an increase in the efficiency of the working cattle, it has been wholly met by an increase in their numbers. Simultaneously there has been a reduction in their quality. The village grazing lands on which animals mainly depend for their food are inadequate, cultivation encroaches on the better pastures whose soil is suitable for conversion into arable land, and consequently cattle have less to eat. And as the conditions for rearing them become worse, their size decreases, and more cattle have to be produced to do the work. A vicious circle has thus been set up, and the task of breaking it is a gigantic one. It is obvious that this lies at the root of the prosperity of Indian agriculture. Fewer cattle and better-fed ones should be our ideal.

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Dairying

It will be a long time before the ideal is realized. Animals take longer to breed than plants. India has several excellent breeds of cattle, some suitable for draught, some for milking, and some for both. They have the stamina to stand the climate and their power of resistance to disease has been highly developed. The Hariana (Punjab), the Kankrej (Gujarat), the Amrit Mahal (Mysore), the Malwi (central India), the Goalo (Central Provinces) are good for draught, while the red Sindi (Sind), the Thar Parkar (Sind), the Sabiwal (Punjab), the Gir (Kathiawar) and the Ongole (Madras) are amongst the best milking breeds. In addition there are several good breeds which have a deserved local reputation. Selective breeding from these classes is the method by which we shall attain our ideal.

The average milking capacity of the Indian cow is very poor indeed. It is 525 lb. for a whole year. That it is capable of considerable increase is proved by the fact that special herds of cows of the Saliwal breed have produced as much as 6,660 to 7,744 lb. It is all a question of selection, proper breeding and management. Cross-breeding with foreign animals is not recommended, except as a quick method of increasing the supply of milk in a large modern dairy serving a large city. As a general policy, it is deprecated.

The Indian buffalo is superior to the Indian cow as a milk yielder, its annual performance being 1,270 lb. as against the 525 lb. of the cow. The buffalo is the Indian dairy animal *par excellence* and the Murra, Delhi and Kathiawar buffaloes have earned a deservedly high reputation. For butter and *ghee* the buffalo is to be specially preferred. The butter-fat in the milk of the Indian cow is 5 per cent as against the English cow's 3.8 per cent; in the buffalo it is 8 per cent.

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Conclusion

What Indian agriculture needs, is more brains to be put into the land and more state money to be put into agricultural improvement and research. A large number of young men pass out of the Universities who cannot all be absorbed in existing professions in the towns. Some of these may well be employed, after a short course in agriculture, in propaganda work in the villages. The best form of propaganda would be for men of leisure and means to settle down in the village. Many simple improvements, such as the practice, prevailing in Coimbatore and Salem, of the farmer living on his farm with his family and his cattle, could well be introduced in other areas similarly situated. On the part of the state, the sums allotted by the Central and Provincial Governments for the agriculture and veterinary departments, which now work out to a combined figure of less than 15 pies per head of the population, admit of large and progressive increase.

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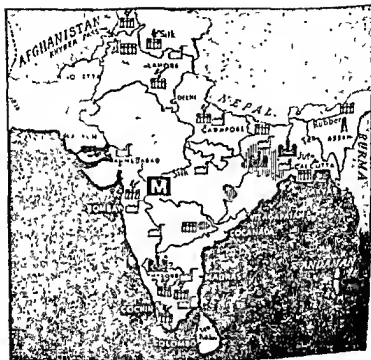
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INDUSTRIALIZATION

BY
P. S. LOKANATHAN



HUMPHREY MILFORD
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INDIA is plentifully endowed with the raw materials of industry. She possesses the world's largest reserves of iron ore and manganese ore. Her reserves of coal are estimated at between 50 and 60 thousand million tons. There is no shortage of chromium, aluminium, lead, tin, copper, zinc and mica. Recent discoveries of sulphur deposits have laid the foundations of a heavy chemical industry. Modern industry depends on a plentiful supply of cheap power and India's resources in water-power alone are vast. In spite of these advantages her industrial potentialities remain mostly unexploited. The exigencies of war have tended to break down the traditional policy of *laissez-faire* towards Indian industrialization and have given considerable stimulus to industrial development. But if the newly established industries are not to stagnate, the defects in India's industrial structure and organization must be remedied and a vigorous policy must be followed. This involves many changes in methods of finance, organization and management, and a definite acceptance of new obligations by the state.

Dr P. S. Lokanathan is Reader in Economics in Madras University. His *Industrial Organization in India* (1935) won him wide recognition as the country's authority on the Managing Agency system.

CORRECTION

The second sentence of this note should read: 'She possesses some of the world's largest reserves of iron ore and manganese ore.'

~~Toronto~~ New York
~~Bombay~~ Melbourne Capetown
~~Calcutta~~ Madras

HUMPHREY MILFORD
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INDUSTRIALIZATION

Industrialization up to 1939

INDIA, not inaptly, has been described as a rich country inhabited by poor people. She is, next to the U.S.A., the biggest producer of raw cotton, with an annual estimated production of seven million bales (of 400 lb.). She enjoys a monopoly of jute, the world's cheapest packing cloth, of which she produces nine million bales per annum. Her supplies of wool are abundant. India today is perhaps the largest producer of oil-seeds—groundnuts, castor seed, linseed, copra, etc.—China being the second largest. Only a small fraction of her total output is exported, the rest being consumed within the country. She ranks first among the world's tobacco producers, producing 1,375 million lb. in 1926-7, and today she is also the world's largest sugar producer. One-third of the world's cattle population is in India and she produces the largest amount of cattle hides, the U.S.A. coming only second. Her forest resources are ample, covering an area equal to one-fifth of her cultivated area and supplying 100 million tons of wood every year.

Nature has been equally kind to India in the endowment of mineral resources. Although the annual production of coal is only 28 million tons, her coal resources are estimated at between 50,000 and 60,000 million tons. Next only to the U.S.A. and France, India has the world's largest reserves of iron ore, and, what is more, they are of the richest kind. About 3,600 million tons of superior ore are said to be available. She has the biggest reserves of manganese ore and three-quarters of the world's supply of mica. She is also the world's main source of supply of ilmenite, monazite and zircon. Chromium, essential for manufacturing high-quality

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alloy steel, is available in sufficient quantities. Although not so well endowed in respect of certain other minerals, there is no serious deficiency of tin, lead, copper and zinc and new resources of lead and zinc have recently been discovered. She was, until lately, lacking in sulphur, but the recent discoveries of sulphur deposits in Baluchistan have more than filled this gap. She is rich in aluminium ores, although but little is mined at present. Since the separation of Burma, she has been poorly equipped with petrol, her annual production being only one-tenth per cent of the world's total; but there is vast scope for the production of power alcohol from molasses and of producer gas from charcoal.

And yet the history of industrial development in India is a history of slow and arrested progress. There was a definite hiatus between the decay of handicrafts in the eighteenth century and the beginnings of modern industry in the middle of the nineteenth. It was only after railways began to be constructed that the first industrial undertakings were established. Even so, progress was exceedingly slow and often irregular. Towards the end of the century such development as took place was only in the cotton and jute industries, though a few engineering workshops were established for repair work in connexion with railways and a small number of minor industries (e.g. cotton gins and presses, rice and flour mills, woollen and silk mills, iron foundries, etc.) were also set up.

In the main, however, India continued to be an exporter of food and raw materials and an importer of manufactured articles. Thanks to the swadeshi spirit, which stimulated local industrial production, and to the limited efforts of certain provincial Governments since 1903 at helping local industries, some expansion of industry was expected to take place. Provincial Departments of Industries were set up, to which were allotted the tasks of pioneering new activities

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and demonstrating their practicability, and indeed hope was entertained that the country was on the threshold of a new industrial advance under the Government's fostering care. But in 1910 Lord Morley, then Secretary of State for India, definitely set his face against any attempt on the part of the Government to assist industrial development, unless it were strictly limited to industrial instruction and avoided even the semblance of a commercial venture. Industrial expansion thus received a severe blow from which it hardly recovered until the war of 1914-18 forced a change in policy. The following statement gives an idea of the limited extent of industrial development at the beginning of the last war.

DESCRIPTION OF INDUSTRY	NO. OF FACTORIES	PERSONS EMPLOYED
Textiles	1,487	557,000
Mines	562	224,000
Industries connected with transport ...	242	125,000
Food	720	74,000
Metals	372	71,000
Glass and earthenware	453	49,000
Industries connected with chemical products	455	49,000
Industries of luxury	389	45,000
Wood, etc.	168	29,000
Industries connected with buildings ...	163	22,000
Leather and allied industries	158	14,000
Clothing	90	10,000
Production and transmission of physical forces	64	8,000
Furniture	50	3,000
TOTALS ...	5,373	12,80,000

When war broke out in 1914, the supplies of essential consumer goods were cut off, either wholly or partially, and on account of the shipping shortage imports of essential articles were seriously curtailed. Indian industries could not operate

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efficiently for lack of machinery and spare parts, as well as of chemicals, dyes and other accessories of production. Attempts to establish new industries were not very successful on account of serious gaps and deficiencies in the industrial structure. The absence of basic engineering and heavy chemical industries was the weakest spot in India's industrial system. Thanks to the enterprise of J. N. Tata, however, an iron and steel plant had been established at Sakchi (now Jamshedpur) in 1911, and this stood the country in good stead during the last war.

The causes of such ill-balanced and meagre development were many. Apart from the lack of indigenous capital, of industrial leadership and of technical skill, there were also some serious gaps in the supplies of raw materials and resources required for production. The supplies of sulphur, copper, zinc, lead and rubber were inadequate. Although large quantities of coal were available they were not evenly distributed, being concentrated in Bengal and Bihar, where 90 per cent of the total output is produced. Further, the peculiar type of industrial leadership which India developed, popularly known as the Managing Agency system, had the blighting effect of removing from the Managing Agents all incentive to risk money on new and possibly unsafe ventures when, as importers of machinery and mill stores and as traders and insurance agents, they could earn liberal commissions. Above all, a *laissez-faire* policy was quite inadequate for a poor country like India, which can only be developed under a well-conceived Government plan. British ideas of developing industry under private capitalism, therefore, were wholly unsuited to the very different circumstances of India.

Thus the last war, beyond affording temporary gains to a few established industries, did nothing to set the country firmly on the road to industrialization. After 1918, the few

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industries which had been established on account of the war either stagnated or decayed; they could not face the competition of advanced industrial countries. The position might have been different had the essential recommendations of the Industrial Commission of 1917 been put into effect. This Commission clearly stated that the Government must take responsibility for industrial development and, so as to fulfil that responsibility, equip itself with an adequate and fully qualified scientific and technical staff, both chemical and engineering, which could advise industrialists. Unfortunately no action was taken on the Commission's report. Industry became a Provincial Subject under the Reforms Act of 1919 and responsibility for industrial development was thrown upon the provinces, ill-equipped financially and technically for any such task.

It was only after the tariff policy was revised and discriminating protection given to a number of industries that progress became marked. On the recommendations of a Tariff Board industries like steel, cotton, sugar, paper and matches, were granted protection. The main line of development has been in the direction of making the country self-sufficient in a number of consumer goods—e.g. sugar, matches and cement—while partial self-sufficiency was reached in cotton, pig iron, steel, glass, paper, hardware, and soap. The extent of expansion may be gauged from the statement of production in British India given on page 8.

The change in the content of her external trade reflects the partial industrialization which took place between 1914 and 1939. There has been an increasing tendency for imports of goods of general consumption to diminish in relative importance. These declined from 37 per cent in 1926-7 to 20 per cent in 1938-9. While the position of luxury goods has remained more or less constant, the imports of raw materials (such as textile materials, dyes, colours and

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	1922-3	1938-9	1941-2
Cement ...	193,000 tons	1,169,944 tons	Not available
Coal ...	19 million tons	28.3 million tons	Not available
Cotton piece goods ...	1,713.5 million yards	4,269.3 million yards	4,466.4 million yards
Jute ...	1,187.5 million yards	1,774 million yards	1,967.8 million yards
Matches ...	16,493,000 gross boxes (1934-5)	21,061,000 gross boxes	16,059,000 gross boxes
Paper ...	23,576 tons	59,198 tons	93,548 tons
Pig iron ...	455,000 tons	1,575,500 tons	1,800,000 tons (estimated)
Sugar ...	84,000 tons	1,040,048 tons	1,167,600 tons
Sulphuric acid	5,29,637 cwt.	6,07,000 cwt.	Not available
Steel ingots ...	131,000 tons	977,400 tons	1,200,000 tons (estimated)

paints) have shown a great increase. From 16 per cent of the total imports in 1922-3 they increased to 24 per cent in 1938-9. The imports of machinery and other capital goods which formed 19 per cent of the total imports in 1926-7 constituted 25 per cent in 1938-9.

Some attempt to fill the gaps in the industrial system was also made in recent years by the establishment of subsidiary industries for turning out accessories and minor products. As examples may be mentioned the manufacture of electrical appliances and lamps, rubber tyres, paints, enamels, asbestos and cement products. While there has been a considerable substitution of Indian manufactures for British and other imports, there has also been a corresponding increase in the proportion which imports of machinery and mill-work bear to the total imports, thus pointing to a gradual process of industrialization in the country.

But progress was far from rapid or adequate and was mainly confined to consumers' goods industries. Even these could not expand owing to the lack of purchasing power on

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the part of the large agricultural population; thus industrialization was in danger of coming to a halt unless rooted in the prosperity of the rural population. The fear of over-production in the jute, cement, match, sugar and other industries became imminent. It was widely felt that the policy of discriminating protection had played itself out. The tests applied to an industry seeking protection were too rigorous, the protection afforded was halting and meagre, and the periodical inquest on progress was an irritating nuisance. Some of the essential producers' goods industries (e.g. machinery, chemicals and dyes) could not be established as they did not satisfy these tests. Above all, the whole scheme of protection, by which the prices of protected articles necessarily increased, was unsound so far as the protection of key industries and basic industries was concerned. These industries should have been helped not by protection but by so adjusting the system of public finance as to provide them with direct bounties and subsidies. On the eve of the present war, therefore, problems of industrialization were pressing for solution and an altogether new approach was needed for their solution.

The War and Industrial Development

A quarter of a century divided the present war from the last, but India remained nearly as unprepared as before to face the inevitable difficulties arising out of the war or to exploit fully the industrial opportunities it afforded. The increasing threat to her security and the revolutionary change in the character of the present war have made industrialization almost a war cry. Only a country with a high economic potential and a well-developed and efficient industrial structure can both defend and attack.

India's economic organization is still very imperfect. Even the expansion of the consumers' goods industries has

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been checked by the limited purchasing power of the masses; and her industrial development is bound up with agricultural progress which, among other things, depends upon the establishment of a fertilizer industry. The weakness and insecurity of her industrial structure were fully exposed when even such well-established industries as textiles, paper, soap and leather, which require large quantities of chemical products, found their supplies cut off on account of the war. Their dependence upon imports for such essentials as caustic soda, bleaching powder, soda ash, caustic potash, sodium carbonate, etc., once again revealed the precariousness of their growth. It has been rightly observed that the extent of the manufacture of sulphuric acid in a country is a sure index of the state of its industrial life. India's production of sulphuric and other acids, which are the basis for the manufacture of a wide variety of chemical products, is totally inadequate; yet the development of a heavy chemical industry is a *sine qua non* of industrial development.

The dependence of Indian industries on foreign sources for machinery, capital equipment and even for spare parts was another source of weakness. From pins, screws and nails to engines and prime movers, everything had to come from abroad. The lack of a strong metallurgical industry, and of subsidiary and auxiliary industries to cater to the needs of the established major industries, explains the weakness of Indian industrialization. Despite her great advantages, India's steel output in 1938-9 was only about one million tons, which was not even one-sixth of Japan's output. The localization and expansion of the cotton, jute and sugar industries did not result, as in the case of other countries, in the growth of subsidiary and auxiliary industries for the manufacture of their own accessories of production. The cotton industry had yet to organize itself for the production

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of bobbins, pickers, leather beltings, etc., from within; and all the materials required for sizing, finishing and dyeing continued to be imported.

In spite of her extensive coast-lines, her shipping industry is undeveloped, while the internal transport system still continues to depend upon foreign vehicles and locomotives. She was thoroughly ill-equipped for the production of the weapons of offence and defence: for tanks as well as for motor cars, for aircraft and ships as well as for guns she was dependent upon imports.

In spite of these handicaps the country set itself to increase production as soon as the war broke out. Even before the war, thanks to the recommendations of the Chatfield Committee in the direction of improving and modernizing the equipment of the army, the expansion of armament works and ordnance factories was undertaken at a cost of Rs. 4 crores. This process was assisted by 250 'trade' workshops and 23 railway workshops which undertook to produce 700 different items of munitions. Large war orders were placed with industries of various kinds all over India, which during the last three years have amounted to Rs. 300 crores. The War Supply Department not only concerned itself with purchasing the available goods for the armed forces but with arranging for the production or manufacture of those not immediately available but which could soon be manufactured. Industries have also been stimulated by the natural protection which the war has conferred on them. The lack of shipping, the restriction on imports of various kinds imposed by the Government to save freight, and the inability of other countries, themselves engaged in total war, to send goods to India have all strengthened the forces at work to quicken internal production. The extent of the development may be seen from the progress made by several industries during the last three years shown in the table on page 8.

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✓ *The textile industry.* All the textile industries increased their production, including the handloom. Exports of Indian textiles have increased to Australia, New Zealand, South Africa and other countries which previously depended upon British imports. More than a dozen new mills and about 100 handloom factories have been established. For the first time in the history of the cotton industry, accessories like bobbins, shuttles, pickers and beltings, have been undertaken. New lines such as mosquito nets, camouflage nets, cellular and water-proof khaki, came into production. A new cloth, known as cotton-jute union fabric, was manufactured and placed on the market. All the handlooms were fully employed in meeting army orders. The jute industry expanded rapidly on account of large orders for sandbags and jute cloth. The manufacture of parachute silk and ligature silk was undertaken for the first time. Woollen mills, both power loom and handloom, increased their output which was entirely purchased by the Government.

• *Paper, glass and allied industries.* Production of paper increased from 60 thousand tons in 1938-9 to 94 thousand tons in 1941-2 and one new paper mill was established. The establishment of new glass factories in the United Provinces increased production to such an extent as to meet half the country's requirements, whereas before the war only a quarter had been met. A new product called windolite has been manufactured, and the production of glass tubes, surgical and laboratory requirements has shown marked increase.

♪ *Drugs and medicines.* The most rapid expansion was witnessed in the drugs industry and more than 75 per cent of the drugs formerly imported are now produced within the country. Shark-liver oil has practically replaced cod-liver oil.

♪ *Luxury goods.* The imposition of restrictions on imports has fostered the local production of confectionery, tinned fruit,

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tobacco, soap and toilet articles, pencils, stationery, cutlery, buttons, durries, coir, pith hats and minor chemicals.

The chemical industry. The war has laid the foundations of a heavy chemical industry. The Alkali and Chemical Corporation of India and Tata Chemicals Ltd set up plants in 1941 and, with Imperial Chemical Industries, started producing sulphuric acid, synthetic ammonia, caustic soda, bleaching powder and bichromates. Other factories have been set up for the manufacture of soda ash and caustic soda from salt and lime and for the manufacture of liquid chlorine, bleaching powder and hydrogen. Two large works have undertaken to produce alkali products from salt, and it is expected that enough soda ash and caustic soda will be produced for India's internal needs. More than 50 new chemical plants have begun work, mostly in Bengal; and a large number of industrial chemicals, formerly imported, are now being manufactured locally. Five new projects have been floated with the object of setting up electrolytic plants for the production of heavy chemicals.

The Government have erected a plant for the manufacture of supertropical and tropical bleaching powder. All materials required for water sterilization and clarification are now produced in India.

Machine-tools. A small beginning has also been made in the production of machine-tools and machinery. By the end of 1941, 100 firms had been licensed to manufacture machine-tools and lathes, drilling, shaping, planing and other simple types of tools and machinery. Over 4,500 out of 5,000 items of small tools are now made in India. Out of 40,000 items required for the defence services, 20,000 are now produced in India as well as over 350 new items of engineering stores.

Miscellaneous. There has been a marked increase in the development of a number of miscellaneous industries. Fire-engine and A.R.P. equipment of all kinds, including stirrup-

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pumps, are made in India. Armoured steel plates are being rolled for the first time. The manufacture of alloy steel, essential for the manufacture of field, anti-aircraft and anti-tank guns, has been undertaken. Acid steel required for the manufacture of railway wheels, tyres and axles is also produced, as well as several other special steels. Steel helmets are produced on a large scale. Other manufactured articles previously imported but now produced in India are wire mesh, benzol, rubber goods, disinfectants, binoculars, lubricating oils, lead pipes and many other items. A factory has been set up to manufacture aluminium from indigenous ores. Small naval vessels are being built, and prismatic glass, opal shade lamps and anchors, required for the ship-building industry, are also now produced. The Hindusthan Aircraft Company, established to produce aeroplanes, remains only an assembly plant, to which has recently been added a repair shop for aircraft operating in the East.

In spite of this apparently impressive record of industrial advance, public opinion has been dissatisfied with the pace of industrialization. In the first place, it is felt that the achievement has not been commensurate with the possibilities or with the necessities arising out of a total war; and it is a poor record in comparison with that of Australia and Canada. The total war orders placed in India were only Rs. 300 crores till the end of 1941 against Rs. 11,000 crores placed in Canada.

In the second place, the Government of India was content during the first two years of the war to regard the war effort in terms of supplying available goods and materials to Great Britain while importing all the weapons of war, railway material, plant and other capital goods from abroad. It had no plan for the manufacture of motor engines, tanks or aircraft. India's best defence lay, according to the Government, in sending money and raw materials

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to Great Britain. Railways were dismantled, wagons and rails and locomotives were dispatched to theatres of war without any arrangements being made for their manufacture at home. It took a long time for the Government to realize that India could neither defend herself nor fight actively if she had to depend entirely upon Great Britain or America, the supplies from which might be interrupted by the risks of and the delays in transport. The contrast between India and Australia and Canada has been striking. Starting from an initially worse position than India, Australia increased her steel production rapidly, and within two years was able to manufacture aircraft, wireless and other articles directly through Government effort and also by inviting British, American and other industrialists to set up factories to replace imports. In Canada the Government created seven Government-owned Corporations, four for manufacturing planes, shells, rifles and instruments, one for procuring machine-tools and two for purchasing vital war commodities. In India, even the manufacture of locomotives, already recommended by an expert committee and for which blue prints were ready, was given up at the last moment on the ground that it was more desirable to import them from abroad.

~ Thirdly, it is argued that the Government has exaggerated the difficulties and obstacles in the way of establishing the machine-tool, automobile, aircraft and shipping industries, for all of which machinery had to be imported. Even though Britain could ill afford to supply the necessary plant, it could have been imported from the U.S.A. in the early stages of the war. Some of the plant being erected in the United Kingdom and the U.S.A. could have been transferred to India.

The lack of trained personnel was undoubtedly a grave handicap, but even here the difficulties have probably been magnified. Big industries permit of mechanization and need

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comparatively few trained men who could, if necessary, be got from abroad. Most of the operations in a modern factory can be learnt in a few weeks by the least skilled. The Government itself worked out a scheme for training 48,000 industrial workers at 310 centres by March 1943. The Bevin Scheme, by which Indian workmen are sent to England for an intensive course of training in British factories, has been a success and these 'Bevin Boys' are now engaged in training other workmen.

Most of these criticisms, however, have now lost their force. With the entry of the U.S.A. into the war and without shipping to transport machinery the hope of establishing large defence and other industries has receded. But something can yet be done. For instance, the American Technical Mission, headed by Dr Grady, drew up plans for importing certain essential machinery and for getting American experts to advise industrialists. They also recommended modernizing and rationalizing all the engineering workshops which have so far remained only jobbing shops. The Government can speed up its system of training and lay the foundation of a sound scheme of industrial and technical training which can be continued after the war. The industrial experience gained now will be a permanent asset.

For the rest, the country will have to wait till the war is over. Despite a plethora of investable funds and an absence of restrictions on new capital issues, the number of new companies floated in the last three years is less than in the three preceding peace years. Only existing companies greatly increased their capacity. The Government has given an assurance that it will protect certain industries, started for war purposes, against competition after the war, by tariffs or other forms of assistance. Four industries to have received these assurances are those engaged in the production of bichromates, steel pipes, aluminium and calcium carbide.

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But what is required in order to achieve industrial development today, and after the war, is a more direct and active association of the Government with industrial activity. If private enterprise will not come forward to establish the key, defence and basic industries, the Government itself must arrange for their establishment. Although the steel industry is now over 30 years old, the recovery of coal-tar products by distillation has not been undertaken. For a long time yet Indian industry will need active Government assistance of the kind which the British Government gave to the dye-stuff industry after the last war. Many modern industries are covered by extensive patents and without the help of the Government it will not be easy to buy them out or lease them. The future of industrialization will mainly depend upon the industrial and fiscal policy of the Government after the war.

The Government has, however, done a most useful service by establishing a permanent Board of Scientific and Industrial Research whose functions are to advise the Government on proposals for instituting research and to help institutes in the scientific study of problems affecting particular industries. A Research Utilization Committee has also been set up to examine the commercial possibilities of schemes whose practicability has been proved in the laboratory.

✓ The future of Indian industry will depend not only upon internal factors but also upon external forces. Whether after the war there will be a slump and depression all over the world consequent upon a sudden cessation of demand or whether the need for rebuilding the areas of destruction will stimulate economic activity remains to be seen. While India cannot but be affected by the operation of these world forces, steps can be taken to ensure that the progress of industrialization in India is not arrested or allowed to be entirely at the mercy of the hostile forces working from without.

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Power

Industrial development is closely bound up with the development of cheap power and extensive transport. Coal, the main source of industrial power, is available only at a high cost in regions away from the coal-fields of Bengal and Bihar. Hydro-electric power offers the best alternative, but until recently its development has been very slow. Even in the coal regions the use of coal directly as power is wasteful and uneconomical. Therefore its conversion into electricity is indispensable not only to avoid waste but also to make possible the recovery of a large number of by-products which are the basis of a wide range of chemical industries. Large thermal plants should, therefore, be established, to enable coal to be used up again after it has undergone the process of carbonization. Further, inferior coal which it is not economic to transport by rail can all be utilized after conversion into electricity. Thus from every point of view electrification of coal is the only rational method of utilizing it for power. By electrification two-thirds of the fuel consumed in industry and four-fifths consumed in colliery furnaces can be saved. It is a mistake to think that hydro-electric power is always cheaper than thermal energy. Only where coal is dear, or where owing to unusually favourable conditions hydraulic works can be constructed cheaply, is hydro-electric power cheaper. The cost of thermal-electricity is likely to be lower than that of hydro-electricity in the areas of thermal-electricity indicated on the map inside the cover.

A thorough survey of the water-power resources of India has yet to be made. The estimate of 5.58 million kilowatts given by the Hydro-Electric Survey of India, in 1921, is said to be a serious underestimate, and it is believed that the total power resources of the country are about 27 million kilowatts. Within the last 20 years striking progress has been witnessed in the development of hydro-electric power

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in many parts of India, but even so the actual amount of energy produced is far below possibilities. India compares very unfavourably with other countries in the output of electric energy, occupying practically the last place among the countries of the world, although her potential hydro-electric capacity is next only to that of the U.S.A.

At present hydro-electric power has been developed largely in Mysore, Bombay, Madras, Kashmir and the Punjab, but there is scope for further development not only in the same regions but also in the United Provinces, Assam and Central Provinces. New schemes for developing power from other centres in Mysore, Madras and the Punjab are being worked out. Ultimately the whole of India can be connected by a complete system of electric grids from hydro-electric sources and from coal mines: Electricity for the millions should be the new slogan and it should be made available for agriculture, and for small as well as large industries. Wherever hydro-electric power has been developed, its influence in decentralizing industrial production and in lifting water from wells and in replacing oil engines has been very significant.

On the supply of cheap power depends also the establishment of such industries as the electro-chemical and the electro-metallurgical. For electro-smelting—that is, for reducing the ores into their respective metals—for the recovery of aluminium and the manufacture of synthetic fertilizers, dyes, explosives and other coal-tar derivatives, cheap power is indispensable. The cost of power in India compares favourably with other countries and it is expected that it may be made available at less than five pies a unit.

The planning and rapid development of schemes for obtaining electricity both from coal and water should be the function of the state. Apart from the fact that the capital required for developing rapidly the power resources of

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the country is beyond the capacity of private enterprise, the social and economic dangers of unregulated and unplanned development make it undesirable to leave to private bodies the exploitation of the country's power. Private enterprises which function already need not be replaced; but they should be fitted into a general national scheme of electric grids from water sources and from coal mines, producing power at the cheapest possible cost. A public statutory body—a National Power Resources Board—needs to be constituted and all schemes of power development should be planned and developed only under its authority. There should also be provincial bodies, working under its general control and supervision, to recommend and execute schemes which have been approved by the National Body.

Transport

More than power, transport is an indispensable condition of industrial progress. Until the country was opened up and connected with a network of railways there was practically no industry. The more rapid construction of railways after 1880 synchronized with the growth of the cotton, jute and coal-mining industries. Industries have followed transport facilities. The importance of cheap and quick transport for a vast country like India, whose agricultural population depends upon it for its prosperity, cannot be overrated. In spite of the rapid progress made in the last 20 years, her means of communication are still very inadequate. The present railway mileage of about 41,000 miles might easily be doubled. There are 82,000 miles of metalled and 224,000 miles of unmetalled roads, but thousands of villages still have no roads or connexions with either a road or railway system.

Although railways carry more than 98 per cent of the total volume of goods and services moved within the country,

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motor transport has taken rapid strides in the last twenty years and has become an indispensable agency for short hauls of goods and passengers. It affords quick, cheap and flexible service, while for rural India it is, after the bullock cart, the only available means of transport.

The fear that the Government's large investments in the railways will be reduced in value by motor competition should not stand in the way of recognizing the superiority of motor transport for short hauls; but roads should subserve the railways as feeders and not run parallel to them.

The Government's responsibility for transport has already been recognized. Any scheme of public works in India must embrace the employment of large sums of capital in constructing roads and railways and in developing power. They are necessary to mitigate industrial fluctuations; but they also ensure a sound basis for industrialization.

Railways and motor transport cannot be had cheaply in this country unless the manufacture of all railway plant, equipment, locomotives, wagons, etc., and motor vehicles, is undertaken in India. The same applies to electrical appliances and equipment. By establishing a factory for providing axles and frames Tatas have shown that most of the equipment required by the railways can be manufactured in India at an economic cost. The practicability of manufacturing internal combustion engines has also been proved by an expert committee.

Air transport will in the future play a large part in carrying extremely valuable goods and well-to-do passengers. India has exceptional possibilities for developing air transport since her internal distances are very great and there is plenty of level ground on which aerodromes can be constructed. The need for an aircraft industry to promote air transport is as urgent as it is obvious.

Although the volume of traffic both in goods and passengers

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carried by coastal ships on Indian coastal waters is considerable, the Indian share in the trade is comparatively insignificant. An Indian National Mercantile Marine is urgently needed and can be built up only if a modern shipbuilding industry, with its auxiliary industries, is established. During the war facilities have been provided for the construction of two shipyards. But if India is to be self-sufficient in regard to her shipping requirements it is necessary to speed up the construction of ships and the Government needs to invest vast sums in the shipbuilding industry.

A National Transport Board to plan transport development and co-ordinate the activities of each agency of transport is another desideratum. The National Power Commission and the National Transport Board are essential parts of any general scheme of planned economy in the country.

The Finance of Industrialization

The question whether sufficient capital will be available for the rapid industrialization of the country involves an examination of India's capital resources with reference to present needs and future developments. The view that there are vast untapped sources of capital which could be made available for investment has lately been reinforced by the extraordinary ease with which protected industries have been able to raise capital, by the large outflow of gold since 1931 and by the ease and speed with which the external public debt of India has been reduced by over £100,000,000 in less than three years. In the past, industrial development was arrested both by lack of savings and by the extreme 'liquidity preference' of the public, who preferred to hold precious metals rather than investments. In recent years there has been a considerable increase in the volume of savings as well as a reduced 'liquidity preference'. In the absence of reliable

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statistics as to the volume of savings, one can only record the general impression gained from the volume of deposits in banks, co-operative institutions and post offices, in investments in Government securities and in industries, in financial institutions and in investments abroad. With every increase in industrial activity, corporate savings will increase, thus creating the financial resources necessary for further extension and expansion. Therefore, while in relation to the present rate of industrial advance internal capital may be regarded as sufficient, one is not so sure that it will be adequate to meet the needs of a large programme of industrialization, including modernization of agriculture and the revolutionizing of transport. If the rate of capital investment in industry, power and transport is to be of the order of, say, Rs.100 to Rs.150 crores per annum—and even this sum should be regarded as moderate—the need for importing a considerable amount of capital will have to be faced. Should that contingency arise, the conditions under which it might be imported must be carefully examined and the Government should ensure that beyond guaranteeing interest on the capital, no further liability is incurred. A National Investment Board should be set up to arrange for the import of capital and to allocate the resources to financial institutions, both state and private.

There is also vast room for improvement in the machinery for collecting savings. Banking development has not been wholly inadequate, considering the lack of opportunities for industrial, agricultural and trading activities; but banking methods are still marked by excessive conservatism, by a lack of understanding of business requirements and by a tendency to yield to panic and to demand repayment of loans and advances without regard to the conveniences of the industrial borrower. The investing public is also subject to fits of optimism and depression, which lead to sudden

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withdrawals of deposits. Nor have the banks in India reached a high level of honesty and efficiency in management. Some improvement has been secured by recent legislation, but a more comprehensive measure designed to reform the whole banking practice of the country has been postponed.

In relation to the rate of industrial expansion envisaged above, the number of banks in India, including co-operative banks, cannot be said to be adequate. There are still many small towns not served by a joint-stock bank. Working capital is available to industrialists only at a high price and in insufficient quantities. The development of commercial banking on right lines, which would ensure the supply of working capital at cheap rates, is at least as important as the establishment of special institutions for the supply of long-term capital. It is owing to the deficiencies of banking that the cotton industry in Bombay and Ahmedabad has been dependent on deposits from the public for its financial requirements. But the practice is risky, as recent experience proved, and in both centres the industry is now replacing public deposits by bank loans.

The long-term needs of industries must ultimately come from savings; but there must be a sufficient number of institutions to collect savings and distribute them to industry. So far the bulk of the permanent capital needed by industry has been met by the managing agents, who carried the entire financial burden. They were not merely promoters of industry, but also performed those functions which belong to the issue houses and underwriters in other countries. While recognizing their undoubtedly valuable services in this field, there is no doubt that the flow of investment has been checked on account of the high toll they exact from industry, not merely by way of interest on their loans but also by way of large gains from their work of management which is inescapably bound up with their system of finance.

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Industry has also suffered from the financial weaknesses of the managing agents and from excessive dependence upon their solvency. Further, for very large enterprises whose requirements are beyond the resources of any single managing agent, and for smaller businesses which are unable to attract the managing agents, some other system of financing has to be devised.

In recent years new developments have taken place in the capital market through the enterprise and initiative of some managing agents, who have floated financial institutions with the object of starting and financing new industries. The Investment Corporation of India, established for the financing of new industries, and the Investment Industrial Corporation, for sponsoring small industries, have both been floated by Tatas. New issue and finance houses have been established in Bombay and Calcutta, in addition to the old-established firms of stockbrokers. Some are private partnerships, others joint-stock companies, and all undertake the underwriting of securities. Investment trusts have also been established in some important industrial centres. The Industrial Investment Trust, Bombay, the New India Investment Corporation, and Birds Investments, are examples of this type. Smaller investment trusts have also been organized in Madras and other centres.

While these developments are undoubtedly encouraging, on the one hand they do not afford a satisfactory solution of the needs of defence or of public utility and other essential industries, and on the other of the smaller industries and cottage industries. The problem of financing industries which, on account of their special position and importance, require to be publicly owned or managed should be viewed against the background of the nationalization of industries. To finance these public enterprises requires a special industrial corporation set up by the Government in each

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province, and an all-India institution to serve as a co-ordinating agency, supplying the needs of industries whose importance transcends provincial boundaries. Help should also be given by these state corporations to private enterprises whenever necessary, in the form of subscriptions to share capital and to debentures.

Provinces should also organize a special bank for the purpose of financing smaller industries and cottage industries. Financial aid given by provincial Departments of Industries has not been much of a success hitherto. It is now widely recognized that only a banking institution run on business principles, having the interests of small-scale industries at heart, can adequately perform this function. The Government should subscribe a certain portion of the capital of the bank and guarantee interest for a certain period of time.

In European countries one of the most interesting and successful types of banking which has developed since the last war is the Industrial Mortgage Bank. It has been able to advance loans against the mortgage of land, buildings, machinery, etc. It draws resources by issuing industrial mortgage bonds to the public which has the security of these mortgages against its bonds. Similar institutions might be established in India with great advantage. Their main business would be the provision of long-term amortization loans to industries of all kinds. The loans would be secured by first mortgages of industrial real estate and utilized for the extension and modernization of plant. They could be paid off within 20 to 50 years and provision for amortization would be made a condition of the loan. Industrial Mortgage Banks may thus prove valuable agencies for the supply of long-term credit; but for the initial capital required by industry, share capital from the public is the only secure basis, and issue houses and underwriters should arrange for it.

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Some Problems of Industrialization

The state and industrialization. If the state is to take responsibility for the rapid industrial development in the country, it must plan; and however flexible the plan may be, the objectives of such planning should be stated in broad terms. Industrialization is only a means to increased production and thereby to the increased well-being of the people. The securing to the masses of an adequate minimum of subsistence will be of little benefit if it results in monopoly and vested interests and increases the inequality of incomes. That the dangers of unregulated industrialism are by no means unreal may be seen from its past history. It has brought about slums and congested housing conditions; it has created grave social and economic evils arising out of unemployment; and it has produced a residuum of the urban population which lacks the essentials of a civilized life. The state cannot disclaim its responsibility for the poor or refuse to take preventive measures against these social evils.

But the nature and degree of control will depend upon whether capitalism is accepted and retained as the most proper form of organization, modified by regulations and restrictions as the public interest may dictate, or whether frankly the state desires to prepare the way for some form of socialism in which the ownership and control of the instruments of production are vested in a public authority. It is not possible to anticipate events; but judging from the trend of opinion abroad, and in India as reflected in the proceedings of the National Planning Committee, a definite bias in favour of economic socialism seems to be visible.

In actual practice, however, differences between the two schools of thought are likely to be less sharp. For if rapid industrialization, which is everyone's aim, cannot be secured without state action, both directly and indirectly, the relations between private and public enterprises are bound to become

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increasingly involved. *Pure, undiluted capitalism, no longer possible in the modern world, is still less practicable in India where private capitalism has so far failed to develop the key, basic and defence industries which must be established quickly. Considering their national importance and the dangers of creating vested interests, it is necessary that such basic industries should be controlled by the state. It may not be necessary for the state to own all industries. The defence industries should certainly be owned, but it may be enough for the state to control the key industries (e.g. metals, machine tools, machinery, heavy engineering and heavy chemicals), and to allow private capital to be invested therein. On the other hand, the Government should nationalize all public utility industries, at least in regard to the future, and exercise control over them.*

But state ownership and control do not mean that enterprises should be administered by the ordinary machinery of government. The new economy will be 'a managerial economy'. The system of administration by a public authority freed from political interference in day-to-day administration has now become an accepted method of managing nationalized concerns. An autonomous public trust, technically efficient and carrying on its duties within the framework of the policy broadly laid down by the state, would be free from the difficulties and inefficiency which creep in from democratic control.

For another reason, too, state control of industry is inevitable. The growth of monopolies has everywhere been productive of serious political and social dangers, and all the regulations so far attempted have not successfully eliminated these dangers. It may be that certain kinds of businesses which inevitably lead to monopoly will have to be nationalized. So far, monopolies in India are few; but there are large interlocked interests in banking, manufacturing and

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transport, involving an excessive concentration of financial and managerial power in the hands of about thirty managing-agency firms. They constitute an industrial oligarchy with interlocking directorates, and the duty of the Government will be to check all anti-social practices likely to injure the public.

Apart from questions of ownership and control, the extent of state regulation in industries which receive a large measure of state aid in the form of bounties and subsidies will also have to be considered. Assisted and protected industries will naturally be subjected to greater control than unassisted industries. Control may be extended to bring about the limitation of and participation in profits.

The location of industries. The state will also have to consider the problem of location and of better regional distribution, as the excessive concentration of industries in certain areas has not only given rise to social problems but also led to a serious disparity in incomes between different parts of India. Industries are not always established in the most suitable regions from the social or even the economic point of view, and some control of location is necessary if overlapping and overdevelopment are to be avoided and if the costs of protection are not to be excessive. At present Bengal and Bombay have the predominant share of the country's industrialization and developments since the war have only accentuated the difference between them and the rest of India, as most of the expansion has been confined to these two provinces. So as to secure a better regional distribution and also to guide industrialists, a Licensing Authority should be constituted with power to grant and withhold licences to set up factories, subject to an appeal to a higher tribunal.

Again, labour raises a whole set of problems. It should be guaranteed certain fundamental rights, especially the right to a living wage. Other questions of welfare—such as the

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employment of juveniles, insurance, technical and industrial education—should be examined and solved to the satisfaction of the workers. The relation of trade unions to the Government, the extent of the share that labour may be given in the direction of industry and similar problems will all press for solution and there should be a suitable agency ready to examine and deal with them all.

Small and cottage industries. Above all, the place in the new economy of small and cottage industries must be the subject of careful examination. The fear that they will be swamped and ultimately destroyed by modern industry is perhaps groundless. Eighty-five per cent of the million workers employed in industry in 1931 were engaged in small and cottage industries and there is no reason to think that industrialization will seriously alter this proportion. Japanese experience shows that small industries can occupy an important place in modern industrial economy and can exist side by side with large-scale industries. The relation between the two is partly competitive and partly complementary. Where they are competitive, it may be necessary, through a public organization, to demarcate the lines of division between the two and, in the case of the handloom, for instance, to specify the varieties of cloth that should be reserved to it. Where they are complementary there is less difficulty; indeed some of the smaller industries would be auxiliary to large-scale industries. The manufacture of accessories for the major industries, such as halds, reeds and pickers for the textile industry, might be more economically carried on in small establishments. The problem in each case is how to fit them into the wider industrial structure by fixing responsibility on the major industry to enter into a relationship of co-operation and co-ordination with the smaller units. Further there are definitely favourable factors today which tell on the side of the cottage industries. Labour is

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cheap and can be had part-time. Anything that adds to the worker's income is sufficient. The development of hydro-electric power and its distribution in villages is already revolutionizing agriculture and small industries, and this trend continues. There is also greater awareness of the need to preserve the small industry, and steps are being taken to strengthen its position by improved financial and marketing organization. And finally, the state can always ensure the continuance of cottage industries by making it known that it would always purchase a proportion of its requirements from cottage industries.









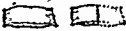
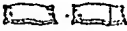














The notion widely held in India that a nation's wealth is only derived from agriculture and primary industries and therefore that a large proportion of the population should be employed therein is not merely not true, but the opposite is true. In every progressive country the proportion engaged in primary industry is found to be dwindling while in tertiary industry it is increasing. If India is to secure an increase in the standard of living for her growing population, the method of attaining that aim must be by transferring a larger proportion of her working population from agriculture to industry, transport, trade and service industries.

The number of organizations to be set up on a national basis to ensure the success of industrialization is considerable. A National Council which will plan and co-ordinate all the ideas of smaller authorities, a National Investments Board, a National Research Council, a National Communications and Transport Board, a National Fuel Resources Board, and other similar bodies should be appointed. Each will be responsible for the specific tasks assigned to it and will also serve as a co-ordinating agency for all provincial or other regional boards. They all require a trained and able personnel, by no means easy to secure; but without a large band of public servants and others inspired

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by the motive of service, industrialization can at best be only a slow process. The future industrial society will be a managerial society in which technical knowledge is the most essential requisite.

The danger of authoritarian control exists in any planned scheme of industrialization. The exercise of power by an individual or a body of individuals is always liable to be abused, and Governments are certainly not exceptions to this tendency. The taming of that power with a view to reducing its evil consequences is one of the most outstanding problems

	1922-3	1938-9	1941-2
CEMENT			not available
COAL			not available
COTTON			
JUTE			
PAPER			
PIG IRON			 (estimated)
SUGAR			
SULPH- URIC ACID			not available
STEEL			 (estimated)

COMPARATIVE PRODUCTION

For units of measurement see the table on page 8

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ON INDIAN AFFAIRS



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(Continued on back cover)

OXFORD PAMPHLETS ON INDIAN AFFAIRS

No. 3—DOUBLE PAMPHLET

THE ECONOMIC BACKGROUND

BY

K. T. SHAH

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HUMPHREY MILFORD
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IN this pamphlet the economic background to India's problems is surveyed from various points of view. Mr K. T. Shah, General Secretary of the National Planning Committee (1939), emphasizes the necessity of viewing the background as a whole, the problems of agriculture, industry and currency being incapable of separate solution. Dr P. J. Thomas argues that a perennial maldistribution and misuse of purchasing power is the cause of India's poverty and low standard of living and advocates a bold programme of public works as the first step in a plan of national reconstruction. Mr J. C. Kumarappa, the founder and secretary of the All India Village Industries Association, seeks to develop a society of largely self-supporting rural units, within which the evil effects of competitive money-economy would be restrained. Sir Datar Singh, the administrator of a large estate in the Punjab, puts his faith in technical education; and Sir Jehangir Coyajee considers the place which India will occupy in the post-war world, and recurs to the necessity for a plan, flexible but all-embracing, as well as decades of strenuous exertion, in order to accelerate the rise of the standard of living.

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By K. T. SHAH

Economic factors condition and influence materially the entire life of the community. The background here sketched necessarily concerns itself with factors and conditions as they are, or have come to be. A brief note is inserted, however, wherever forces are known to be at work which are likely to affect and alter the situation radically. Every endeavour is made, at the same time, to avoid wishful thinking, or giving undue importance to changes that are calculated to bring about a more desirable state of affairs.

In considering the outlines of India's economic background, attention must be paid to the following factors:

- (a) Production of material commodities, or new wealth, and services not embodied in such commodities, from Agriculture, Forests, Mines and Industries; including Consumption Goods.
- (b) Distribution of that wealth, including an estimate of *per capita* income, standard of living, or the distribution of the national dividend among the several categories of the population.

The problem of Population overlaps both (a) and (b).

- (c) Trade, Internal as well as Foreign, as being the hinge, the pivot, the lever of the entire economic system, conditioning both the production and the distribution of the new wealth of the community, together with its accessories of Transport, and Banking with Currency and Credit.
- (d) Public (Central, Provincial or Local Government) activity, being the chief agency to modify or recast the background.

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advantages are more than counterbalanced by the handicaps they suffer from. And that is why the return from her most considerable source of new wealth is, in comparison to the corresponding return in other countries, low and uneconomical.¹

This shows not only the initially low per-unit yield in India: it also shows that, while in other countries forces are at work which bring about a steady improvement in the unit yield, in India there seems to be no effort to improve the outturn per unit. The example of Russia may be mentioned to show that, in less than 15 years, the U.S.S.R. has raised the aggregate as well as the unit yield in almost every one of her principal crops by 100 per cent and more. The inherent possibilities of India are in no way inferior to those of Russia.

Considering, on merits, the several handicaps from which the Indian agricultural producer suffers, it is difficult to find a single instance where, given the will to improve, human science and ingenuity cannot overcome these obstacles to the material progress of India.

The chief handicaps of the Indian agriculturist may be classified under two main heads—those imposed by nature, and those made by man.

In the former group may be included the uncertainty, irregularity, or uneven distribution of rainfall; the havoc of floods, locusts, or other pests; the comparative poverty of soils in some regions; their unsuitability for certain crops; or their exhaustion by incessant cultivation.

¹ While Germany produced 22.6 quintals of wheat per hectare and the United Kingdom 20.6, India produced only 7. While Italy produced 51.2 quintals of rice per hectare, U.S.S.R. 16.6, U.S.A. 24.5, China 25.1, India produced only 13.9. Her production of cotton is about a third per unit of the U.S.A.

In the second category are comprised the poverty and ignorance of the cultivator; the host of burdens imposed upon him by the state, the landlord and the moneylender; the laws of inheritance, and the consequent morcellement and fragmentation of land; the lack of organization for marketing his produce; the inattention to connected or subsidiary industries; the burdens of private debt, etc.

Not one of these is it impossible to remedy effectively and finally to eliminate. The only lack is an effective desire to ameliorate the agriculturist's standard of living.

The vagaries of rainfall are no new phenomenon in India. Thousands of years ago, the Indian authorities were alive to this factor, and endeavoured to provide against it. Well- and tank-irrigation was and is considered to be among the simplest acts of self-insurance, which the poorest of cultivators seeks to provide on his holding.

The other similar handicaps—visitation by floods, pests, or earthquakes, poverty of the soil, or its unsuitability for certain types of crops, or its exhaustion by excessive and wasteful cultivation—are all capable of being similarly remedied, or insured against.

When every allowance is made, however, the basic fact remains that Indian agriculture is nowhere near so productive as its intrinsic advantages of soil and climate should require. *A fortiori*, there is still less sign of any steady improvement in the yield per unit of the principal competing crops, as in other countries. Some of this may be due to those man-made handicaps on primary production, which could be easily remedied, if only the powers that be in the land were alive to their immediate duty, and their responsibility to the people they rule.

The most considerable of these man-made handicaps is the evil of land-morcellement and fragmentation. The average

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holding varies from 2 to 12¹/₂ acres in the several provinces. Originally due to the prevailing law of inheritance, which distributes equally among the male heirs of a deceased landholder the parcel of land held by him, other complications have entered into the system which have made the evil ten times worse. The average holding, moreover, has no reference to the normal, standard, or economic unit, sufficient, either to maintain a given number of persons; or, alternatively, to provide adequate occupation to the labour and capital necessary for cultivating it.

A few half-hearted attempts have been made, it must be recognized, to effect a measure of consolidation of holdings. But the principle governing all such attempts is vitiated at the very root, as the rights of property, however uneconomical and unsocial, are assumed to be sacrosanct. Without a comprehensive, compulsory scheme of consolidation into proper economic units, with scientific cultivation and collective marketing, there seems to be no possibility of Indian agriculture meeting effectively the burden of increasing population.

There is, in the foregoing, no reference to industries associated or connected with agriculture. Animal husbandry, for instance, is at its lowest in India, notwithstanding the largest number of cattle. The improvements in the breed and the yield of cattle, their feed and care, the fullest utilization of their by-products while alive or dead, have hardly yet engaged serious attention. Potentialities of immense new wealth from dairy industries and the by-products of milk, blood, bones, hair, etc., are all but unrealized. Isolated, individual efforts in these fields have succeeded already sufficiently to warrant the statement that the cattle industry, in all its connexions and potentialities, properly developed, would add at least an amount equal to the present wealth derived from that source.

Industrialization

•

The same tale must be told of the state of industry in India and its potentialities. India, with her teeming millions, has been too good a market, despite the poverty of the people, not to be appreciated as a dumping-ground for the manufactures of advanced industrial nations. Competing Indian industry, on a modern mechanized basis, would obviously make it hard to maintain this market as a pocket borough. It was, therefore, the consistent policy of the British in India to insist upon absolute freedom of trade, which, in practice, spelt deliberate disregard of her industrial possibilities.

Mechanized, large-scale, modern industry made its appearance here two generations after the advent of the Industrial Revolution in the West. In the beginning, however, such industry was Indian only in the sense that Indians, at least on the West coast, provided some capital, the lowest class of labour, and that it was located in India. It was operated mainly by non-Indian interests. No substantial accretion could, therefore, be expected from such industries to the wealth of India.

The real possibilities of industrialization in India were first perceived in the course of World War No. 1. Britain, India's main source of manufactured products, was shut out by unrestricted submarine attacks. And her own war needs demanded the development of India's local material to the utmost. A Royal Commission on Industries in India revealed these potentialities authoritatively, and made recommendations for developing them, which had, however, to await the end of the war before being taken in hand.

Meanwhile, the financial exigencies of the war led to changes in the fiscal system, which could not but have indirect repercussions on the entire question of state aid or

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protection to local industry. Four years after the war, a Fiscal Commission recommended, and the Legislature resolved upon, a policy of 'discriminating protection'. The convention of India's fiscal autonomy, under certain conditions, was also adopted about this time. Industry after industry was examined in the light of the principles laid down; and in several cases some measure of conditional protection was given for a specified time.

The industries thus protected have more than justified the new policy. The present war has, similarly, been responsible for further expansion or extension, which may not prove abiding, if the factors, besides the war, leading to their birth and growth are not carefully attended to.

While recognizing this change, even today only a fraction of India's natural advantages for industrialization are being utilized. India still lacks many of the key industries, without which her economic structure must needs be vulnerable. Several minerals, heavy chemicals, forests produce and processing industries; transport industries, like automobiles, aircraft, locomotives, ship-building, are either yet unknown, or in their merest infancy. Industries connected with munitions or armaments, their accessories and subsidiaries, or even such essentials of modern industrialization as plant- and machine-making, power-generation, etc. are hardly yet in gestation.

If these industries were taken in hand for intensive and rapid development, they would not lack either for raw materials, labour, capital, or market. Unskilled labour is superabundant. In this age of automatic machinery, the problem of skilled labour is, as Ford says, a matter of time. All the necessary skill can be readily learned at home, or abroad, if only there is a definite resolve and plan. Capital, too, will not be lacking, notwithstanding the legend of the

shyness of Indian capital. The experience of more than one new, or expanded, industry; the operations on more than one stock exchange; the presence of crores of deposits in the Reserve, Imperial, the Postal Savings and other banks; and the spectacle of accumulating sterling balances—all go to prove that there is absolutely no lack of the necessary capital, if only a determined policy of industrial development is pursued.

It is, indeed, a curious commentary upon the outlook and policy of those in authority in this country that the repatriation of the sterling debt, for which the accumulated sterling balances have been used, should have been so widely welcomed. This debt admittedly carried a low rate of interest. Its conversion into rupee debt will not lessen materially the burden of interest. The only saving is in the cost of sterling transfers. On the other hand, it has involved an expansion of paper currency, and consequent reaction on the price level, which will have its own nemesis. This amount could have been more profitably utilized for supplying capital equipment needed for existing or new industries. The gain to the country from such a course would have been ten, twenty, or fifty per cent profit. What is a three per cent debt against such accession to the wealth of the country?

The value of industrial production in India is difficult to estimate in monetary terms, and, *a fortiori*, its potentiality. The author of *The National Income of British India, 1931-32*, makes an indirect attempt at this estimate. If one reads his conclusions correctly, the figure may be placed at about 400 crores per annum. Since 1931-2, industry has unquestionably expanded in volume. Equally evidently, the price level has also risen. But, granting all that, the fact still remains that India's industrial potentiality is realized only up to a small fraction. Considering her resources of raw materials,

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now exported for lack of adequate local industries, labour, capital and market, there is every reason to hold that, with a proper plan of all-round development, the net contribution of industry to the annual wealth of the country would at least equal the income from primary production.

II. Distribution

With such potentiality of production, the country still remains very poor. No systematic and authoritative attempt has been made in recent years to give a proper picture of the distribution of India's national dividend. The unofficial estimates of the annual *per capita* income of the country vary considerably. The latest estimate of the kind puts the *per capita* income in 1931-2 at Rs. 62 per annum. The present writer made a similar investigation for the average of 1900-1 to 1920-1, which yielded a gross income of Rs. 74 per annum *per capita*.¹

But these figures do not give any idea of the actual share received by each individual, and its relation to his needs. The present writer estimated the distribution of the national wealth to be such that, if we had Rs. 100 of this wealth to distribute among 100 individuals,

Rs. 33 will go to 1 member of the capitalist and landlord class;

Rs. 33 will go to 33 middle-class men; and the balance of Rs. 34 will go to 66 working-men.

Thus two-thirds of the community get per head half the average income; while 1% enjoy more than a third of the national wealth. The same thing, stated in terms of the standard of living, shows that the bulk of the population can get hardly one meal a day, and that, too, of the coarsest and

¹ *Wealth and Taxable Capacity of India*, by K. T. Shah and K. J. Khambatta.

poorest. Against an average human need of 3,600 calories an average Indian can scarcely get 600! And that, too, without regard to any other needs of human existence, and any other needs of civilized life.

The mass of humanity in India thus habitually live below the level of subsistence. In regard to the amenities of life, their position is hardly superior to that of the wild beasts of the jungle. The root cause lies not so much in the steadily increasing population in India, as in the lack of development of the country's inherent resources of agriculture and industry.

That does not mean that India's population problem can be ignored. Census after census has revealed a growth in numbers, notwithstanding famines, plagues, epidemics, or war. This problem is, however, too complex to be considered, even in outline, in this sketch. We need only add that the problem is not confined to securing adequate food-supply for this increasing population; or even its employment. It is also a problem of quality; of redistribution within the country as well as outside; and of its adjustment to the new conditions of life.

With or without a solution of this problem, a recasting of the system of distribution is unavoidable. India can never take her proper place in the roll of nations with such an ill-fed, unclad, ignorant mass of humanity, scarcely above the level of brutes in living conditions. To recondition distribution a radical revision of the laws of property, its accumulation and transmission, is unavoidable. Hand in hand must also go the review of the motive force in economic activity. The cash nexus, the only motive today, is accountable for such perversion and degradation that, without its abolition, there can be no hope for a sane economic system or a just social order.

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III. Trade

The principal link for effecting distribution, or bringing about the consumption of the material wealth produced, is trade. The predominant characteristics of India's trade, both internal and foreign, remain substantially the same as they were when the present writer described them in *Trade, Tariffs and Transport in India* in 1924. Necessarily the internal is more considerable than the overseas trade. Their relative proportions are, however, difficult to estimate through lack of official statistics. If we take India's aggregate production, under present conditions, at about Rs. 2,500 crores, and consider that it changes hands only once from the producer to the consumer, it would be nearly ten times as important as the overseas trade. The weekly average of cheques cleared in the Bombay bankers' clearing-house is over 15 crores; and for every rupee's transaction settled by cheques, there is at least a ten-rupees' transaction settled in cash. Bombay, again, is not the only clearing-house in India. The aggregate of retail and wholesale trade transactions cannot, therefore, be less than Rs. 10,000 crores per annum.

The facilities and organization, however, of conducting the internal trade have never been designed to meet its requirements. In working the currency, the banking, the transport, terminal and insurance facilities, the requirements of internal trade are completely subordinated to those of foreign trade. A considerable amount of unnecessary movement of goods, involving an unnecessary use of transport service, makes the internal trade needlessly burdened. The intervention, again, of a series of middlemen, each levying his own commission, and the incidence of central or local taxation, all load and handicap the primary producer and internal trade.

The main features of the foreign trade of India are that she exports more than imports; that her exports consist largely of foodstuffs and raw materials, while her imports consist predominantly of manufactured and semi-manufactured articles; that the balance of trade is generally in her favour, and is set off to a very substantial degree by the necessity to pay for the 'home charges' reckoned as invisible imports; and the surplus still remaining due to us used, before the world depression of 1930, to be paid in specie, gold or silver. The expansion or establishment of industries in India, and the consequent consumption of India's raw materials for those industries, has led to a slight modification in the last twenty years in the volume and contents of India's foreign trade.

The direction of this trade, or the relative importance of the customers, has also undergone some change in the last generation. But even now Britain remains the largest single customer of India, both as regards imports and exports; and the trade policy has been determined largely with regard to the economic advantage of Britain rather than of India.

The Governmental necessity to make considerable payments in sterling regularly has made the Indian currency system minister, not so much to the requirements of our internal economic system as to the needs of our Government, and of foreign trade. It is impossible to detail the historical vagaries of the Indian currency system. But the note must be added that Indian public opinion even now regards it as based on uneconomical foundations, unsuitable to the needs of India's national economy.

The reform of the currency and banking system of the country is impossible, unless and until it is related to the requirements of the country's economic system. The needs of local industry and trade must be preferred to the exigencies

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of Government remittances abroad. The establishment of the Reserve Bank, and the central control of India's credit mechanism through that institution, is a step in the right direction, if only its vital link is steadily maintained with the industrial and commercial needs of the country.

IV. State Activity to Remould the Economic Background

This sketch of the background has referred, again and again, to the need of effecting some change if a progressive betterment is desired. The only agency for such a change is the state, as the organized embodiment of the community. The Government is the executive expression of the state. Unless and until that organ is recast fundamentally, with a new outlook and new technique, no radical change can be effected, no substantial improvement hoped for. The main activity of our Government today is to collect taxes and maintain order. This is a negative, or at least a passive, conception of the state and its functions, which will never satisfy the needs of a community like India. The reaction of this narrow range of public activity is exploitive, not developmental. But if the active outlook of the state in India is to replace its present sluggishness, it can only be when the Government is recast radically in complexion as well as in responsibility.

Even when this organ of public action is reconditioned and reoriented, its direction would be haphazard in the absence of a preconceived plan and co-ordinated activity. It has been the bane of India in the past to consider each problem as though it stood by itself in a watertight compartment. The Industries Commission did not consider the fiscal policy; the Fiscal Commission did not consider the tax system; the Taxation Commission did not consider the

land revenue; and the Agricultural Commission did not consider the standard of living, or the problem of population. But all these are essentially connected and mutually interdependent. The solution suggested by each, separately, is bound to be vitiated, however well-meant it may be, when its reaction upon the interdependent parts is overlooked or unconsidered.

Under these circumstances, a comprehensive, co-ordinated plan of national reconstruction is indispensable before any real hope of substantial improvement can be entertained. The plan is needed as much to lay down the trends of rational development of our productive resources, and their just distribution, as to prevent the creation of new vested interests that might possibly prevent its final and effective fruition within a predetermined period.

By P. J. THOMAS

THERE was a general expectation some years ago that industrialization in India would cure the widespread unemployment prevailing in this country; but this has been belied by the experience so far. Industrial development in India has been rather rapid in recent years, especially after 1930; we produce today all our sugar, cement and matches, more than 90 per cent of our cotton cloth and a large part of our iron and steel goods, paper, etc. Nevertheless the total number of persons so far employed in organized industrial establishments is still under 2 million. In case the rest of our requirements are also manufactured in India, another half a million labourers may perhaps be required. But in India, as is well known, the number of unemployed persons

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runs into tens of millions and nearly every agriculturist is under-employed. Only a small fraction of these would be absorbed in industry. There is thus no indication that industrialization will straightaway cure India's unemployment or raise the standard of living of her population. This is because the causes of Indian poverty lie much deeper. They are connected with India's defective economic system and social outlook.

An economic system can only function satisfactorily if it provides for an adequate production of goods and a proper diffusion of spending-power in the community. But production cannot be adequate, unless the distributive basis of the productive system is equitable, unless the productive mechanism as a whole provides for a proper distribution of spending-power in the community. If such a distribution does not take place, the standard of living of the masses will remain low; there will be a paucity of demand for goods and services; therefore industry and trade will remain undeveloped, and unemployment of all kinds will result. This is what has happened in India. As a result there has been poverty and misery among the masses in the country, and industry has to face a stone wall today.

The key to this whole problem is employment. Spending-power must be got in lieu of labour. But employment cannot increase unless there is a growing demand for goods and services, and such demand cannot grow unless a reasonable standard of living is maintained by the people of a country. In India as things stand today, the standard of living of the masses is pitifully low, because they obtain very little of the spending-power generated in the country, and because there is no adequate employment. But adequate employment cannot be had unless the demand for goods and services increases. It is a vicious circle of the most virulent type.

The following features of the Indian economic system are specially worth noting in this connexion:

- (1) An inefficient productive mechanism, in which the producer is deprived of the fruits of his labour by inequitable methods of credit and marketing.
- (2) An uneconomic use of the annual income which has curtailed employment and kept down the purchasing power of the masses.
- (3) The consequent under-production and under-consumption.

I. Defects in the Productive System

It is true that agriculture by itself cannot give full employment to the whole of the rural population; but had agricultural production been based on an equitable system of distribution, production would have been more efficient and employment more ample. As Malthus wrote to Ricardo in 1821: 'From the want of a proper distribution of the actual produce, adequate motives are not furnished to continue production.'

This is quite true today of Indian agriculture. The tiller is usually a tenant; he hires his land from a zamindar or other landholder on terms which, under the inexorable laws of supply and demand—limited land area and unlimited competition between tenants who know no other occupation—involves the giving away of too large a part of his annual produce as rent. From what remains the dues to the money-lender have to be paid, not rarely at unconscionable rates of interest. The produce is usually sold at harvest-time, at low prices and on terms which are generally dictated by the trader, whose hold on the tiller is strong in most parts. In the result, the tiller of the soil obtains only a precarious living from agriculture. Even normally he lives by mortgaging

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his future labour: the ryot mortgages the crop even before it is raised, and the labourer lives by mortgaging his future labour. This feature runs through the whole gamut of Indian economic life and this has had the most disastrous consequences. A people living from hand to mouth cannot be expected to adopt improved methods. Such a people can hardly satisfy elementary human needs and cannot be expected to have an effective demand for the goods and services required in countries where a reasonable standard of living is maintained. Consequently agriculture has been languishing, the agriculturist has been a poor consumer, the various services remain undeveloped and a perennial under-employment has been possessing the country. This has obviously been to the detriment of other countries as well as India.

No doubt, employment in agriculture is largely seasonal, and subsidiary occupations are necessary to make up for it. Here again, the same vicious economic system is at fault. Even more than agriculture, cottage industries depend on middlemen for credit and marketing, and the transactions have been such that too small a share of the fruits of their labour went into the hands of the producers. Even the ingenious Dacca weavers who produced the superb muslins of old obtained only a pittance for their labour, and while the middlemen became wealthy the labourers remained poor. Such unfair relationship still continues between the artisans and middlemen in almost all parts of India. Even the most illiterate worker can balance the extra effort against the increase of income which it brings about. When the return is woefully inadequate, there will be no incentive to work. We may give all kinds of encouragement to manufactures; but if they cannot be placed on more humane social foundations they cannot but languish, as a result of rigid demand.

II. Defective Use of Income

Even where income is not equitably distributed, the economic life of society can go on fairly satisfactorily, provided the income is properly utilized. A proper utilization of income involves a balance between spending and saving. I use these two terms in a non-technical sense. Normally, income-earners will spend some part of their income on food, clothing, house-room, recreation and other essentials for a normal standard of living, and the rest will be saved; i.e. invested in banks, Government securities or the shares of companies, or directly used for production by the earners themselves. The part spent will go directly to producers of food, clothing and furniture, and to the purveyors of services, and therefore will immediately reach the pockets of labourers who will in turn use the same for similar purposes. The part saved will also ultimately reach producers (and labourers), seeing that if savings go to banks or, better still, to business concerns, they will be spent largely on labourers and will sooner or later be used for purchasing goods and services. Thus in a well-ordered economy, money will go round automatically and labourers will have employment, at least in normal times; at any rate no perennial unemployment of the type known in India will arise. This is what has been happening in most countries in Western Europe, especially the smaller ones which are not saddled with unstable external relations. The result is that normally there was employment for all; cyclical unemployment indeed used to arise, but it passed away when times improved.

Such has not been the case in India, because the use of income in this country has been very different. On the one hand, there has not been enough spending of the proper kind; and on the other, there has been too much saving of

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the improper kind. Those who obtained incomes spent more of their money on gold, silver and precious stones and on other luxuries which do not involve a benefit to the ordinary labourer, and less on clothes and furniture and music and books and the many services which give employment to labourers of all grades. Spending on jewellery or precious stones may add to the employment in a small luxury trade which employs only a few persons, but spending on clothes or books or laundry will lead to a widening range of primary and secondary employment and will set a virtuous economic spiral in operation.

While our spending narrowed the scope for employment, our saving straitened it even more severely. Saving could increase employment if the money saved went immediately into productive enterprise. Saving in India, till lately, meant hoarding. It has almost been synonymous with buying gold or jewellery. In the result, India has absorbed an inordinate share of the world's production of gold for a long time, and while private holdings of gold are very meagre even in the most prosperous Western countries, they are fairly common in India even after the copious gold exports of the years after 1931. The thirst for precious stones has also been keen in India; where else in the world can one see such numerous and commodious shops dealing in precious stones and so avidly frequented by customers? The poor peasant and labourer invested his little savings in silver, even as the better-off persons hoarded their bigger savings in gold and precious stones. It was 'liquidity preference' with a vengeance.

No doubt all savers in India have not been equally mad after the yellow metal; some of the wiser ones used their incomes for lending to needy persons. Lending money is a beneficial service, provided it is for productive purposes,

and provided the terms are reasonable; but neither of these conditions was fulfilled by the bulk of moneylending transactions in India. Credit has been grossly misused by the agriculturist, because he did not know the proper use of it. He would never repay the debt willingly; therefore the rate of interest had to be high and land had to be mortgaged if any considerable sums were needed. But the courts helped the creditors and they never lost much. On the other hand, many of them have amassed large fortunes.

It must be admitted that even unproductive lending has helped in the circulation of purchasing power in the community. What the labouring classes should have received as wages was made over to them as loans; but as such loans cannot be repaid except in prosperous seasons, rural indebtedness became a serious problem. If a people cannot live on income already accrued, they will have to mortgage their future incomes, and this is what most people in India have been doing. Even this would not have been possible if some persons had not undertaken the risk of lending to such people.

Some benevolent persons scorned to be usurers but purchased land in the belief that it would help the community. It is true that land gave them only a meagre return on the capital invested (although it brought them social prestige), but it did little good to the community. It would have done some good, if those persons not only became proprietors but engaged themselves in cultivation, by employing the tenants as paid labourers or better still as co-sharers. But certain of the high-caste Hindus considered it beneath their dignity to till the land; working with the hand was unworthy of the twice-born. No doubt some of them lent funds to their tenants ostensibly to help them, but such credit often helped the ryot as the rope supports the hanged man.

In every civilized country, the most enterprising persons

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engage themselves in productive activity with their own or borrowed capital, and thus the labouring classes are able to get employment. In India, on the other hand, such persons have generally fought shy of productive enterprise and confined themselves to trading and moneylending. Productive enterprises are risky and are dependent on the seasons, but trade, especially commission business, brings profit nearly always and the interest due to the moneylender goes on accumulating even while he is asleep. Especially if 12 per cent interest or even more can be obtained for one's capital from a neighbour who pledges himself and his land, why should one risk one's capital by venturing into agriculture, which is full of risks, or even industry which seldom gives such high return on capital? These wise persons knew what their own interest was, but the national interest suffered severely by this selfish policy. The poor and ignorant cultivator and artisan were left to take all the risks of production, generally with funds borrowed at high rates of interest, and they did what they could. Being unequal to the task they have become impoverished, and under their care agriculture and industry languished. Is it any wonder if under such a system the scope for employment became narrow and the standard of living was kept down to the lowest level?

It must be admitted that the caste guild and the joint family system toned down some of the rigours of this economic system. The prevalent habit of giving alms and *feeding people on certain occasions* was of some use in distributing spending power. But the conditions of the country before 1860 were not conducive to any great advance in economic life. Since that date, there has been a marked change. The economic unification of the country was accelerated by a centralized administrative system established by the British, by railway development and by a

country-wide post and telegraph system. Private capitalists from Europe opened plantations and trading businesses in India and this gave a fillip to economic life. The Government's investment policy also came to have a growing influence on economic development. After 1868, the Government launched a policy of loan expenditure on railways and irrigation works. The loans had to be raised abroad, as there was little liquid capital available for investment at home. What was at first a rill became gradually a mighty river. The first investment on capital works was hardly a crore a year; but in the years just before the world economic crisis of 1929-30, the capital expenditure on the railways alone came annually to the high figure of 41 crores. The outlay on irrigation and civil works also increased. All this gave rise to a new economic life in the country. Employment increased; towns grew; banks arose; accumulation of liquid capital began. This emboldened many Indian business men, at any rate in Bombay, to venture out into large-scale industry. They first confined themselves to cotton mills. The shyness of Indian capital was gradually overcome and modern capitalism was ushered in. Subsequently, it was nourished by the protective wall raised by the Government after the world war of 1914-18.

But such development has affected only small sections of the Indian community, and even now economic life on nearly the old lines is functioning over the greater part of India. Capital formation has been slow. Industrial development, although it has been rather rapid in recent times, has only touched the fringe of Indian economic life, and its effect on employment and purchasing power has not been potent. Intellectual life in the country has rapidly advanced; but the standard of life still remains low, and therefore not only the industries, but also the various services

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which form a large source of employment in all civilized countries, remain undeveloped in India. The scope for employment in the country, therefore, remains at a low ebb. While I admit that all young men of the so-called middle classes ought not to aspire to black-coated professions, it is undeniable that many more of them could have been employed in business and in the services had the economic system functioning in India been more equitable, i.e. if the productive process had been based on better distribution and if the surplus had been properly utilized. Not only unemployment, but nearly all our economic ills can be traced to this fundamental defect. India is regarded by many people as over-populated. Whatever be the validity of this view, it is certain that had her economic system functioned properly, this sub-continent, rich in natural and human resources, could have maintained even a larger population than the present on a higher standard of life. An economically better-off population in India would also have had a stabilizing influence on world economy.

III. The Outcome

The cyclical unemployment in the West is also due to certain inherent defects in the present economic system, but there is a fundamental difference. While in the West the capitalist classes invested their money in productive activity and came face to face with periodical under-consumption, the wiser Indian capitalists adopted the more selfish course of not investing at all; they were perhaps wise, because they avoided the loss involved in producing goods without being able to sell them. But this course was anti-social, because by their improper use of capital, the other sections of the community have been deprived of possibilities to secure suitable employment. They avoided overproduction of the

kind which occurs periodically in Western countries; but a severe underproduction has resulted from the sterilization of capital. Underconsumption is, of course, the final outcome, and this is much more serious, and has come through a process far more injurious, than the underconsumption which arises in the West. Underconsumption in the West is only periodic; in India it is perennial. In the West, underconsumption does not affect necessities; here, a large proportion of the people are unable to obtain bare necessities, because our resources are lying untapped or ineffectively tapped. By properly exploiting those resources, consumption goods will increase and there will be fuller employment. The purchasing power of the masses in this country is severely restricted, and in the result their consumption capacity is the lowest. If consumption does not increase in India, there is little scope for further industrial development—a fact which our industrialists will have to take into account, sooner rather than later.

Thus no stable economic progress is possible without curing the economic system of its inherent defects. Unemployment and underemployment are only symptoms of the failure of this economic system. They cannot be remedied effectively without tackling this fundamental problem. No doubt this is an extremely difficult job, but it will have to be undertaken boldly, if any substantial economic advance in India is to be possible.

The remedy lies in breaking through the vicious circle which has been operating injuriously for long in the economic life of this country. Some people think that by rapid industrialization our ills can be cured. Considering the low spending-power of the masses, rapid industrialization is not feasible in the present conditions of this country. Before any large-scale industrial development can take place, a means

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must be found for raising the spending-power and standard of life of a larger number of people, and when this is under way, industrial development will become easier. Therefore the first step must be a planned drive for national development which, while pumping out fresh purchasing power, will add to the economic equipment of the country, and raise capital goods specially required for industrial advance. A fairly effective beginning can be made by a carefully devised public works programme; it will set in motion an upward spiral, of increasing purchasing power, rising standards of living, accelerated industrialization and improved agriculture. A time of depression and unemployment is the most suitable for launching such a programme, but in a country like India, where large masses of human and natural resources are normally remaining idle, such works can be carried out at any time (except war), provided they are carefully planned. The immediate post-war period may be opportune, as it is highly probable that a decline in prices and employment will arise then, owing to demobilization and the stoppage of war production. It is hoped that plans for a suitable public works programme will be kept in readiness so that they may be put into operation by public authorities and private concerns in the country immediately after the cessation of hostilities.

A scheme for national development must be drawn up and carried out within a definite period. As the nature of industrial advance cannot, on many grounds, be left to be decided by the capitalist alone, suitable plans must be made under the supervision of the Government for the location and size of industries and for the safeguarding of labour interests.

Such a planned economic development ought to enable India to house her teeming millions on a higher standard of comfort, provided in the meantime adequate steps are also taken for improving the social outlook of the people by proper

education. In spite of such progress, India will still need the industrial products of the West, and a prosperous India and China may enable world economy to function without those periodical depressions which have been impoverishing millions of people. Therefore India's economic development must be the concern not of this country alone but of the world at large, and especially of the industrialized West.

By J. C. KUMARAPPA

INDIA presents such a bewildering variety of economic problems that it is not easy for one steeped in Western economics to appreciate Indian conditions, much less to understand the programme put forward by national leaders. These variations from accepted formulas are largely due to the unique course of Indian history and the standard of values developed as a part of its culture and religion. In this essay an attempt is made to explain Indian problems in the light of such a background, with special reference to the standard of living of the people.

I. THE STANDARD OF LIFE

Whatever may be the definition of the 'standard of life', it is generally accepted that the major part of the teeming millions of this country is hardly able to procure the mere necessities to eke out even an animal existence, and that there are few civilized countries with such a low standard.

Income per capita

Many attempts have been made to measure this situation by appraising the national income, and from that to arrive

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at the *per capita* income and then to compare the results obtained in other countries by a similar process. The latest estimate, *The National Income of British India*, is by Dr V. K. R. V. Rao. His computation of the *per capita* income is Rs. 62 per annum. However useful such calculations may be for certain academic purposes, the picture of conditions they unveil is thoroughly misleading as regards the real circumstances prevailing in rural parts. Naturally, the handicaps under which such calculations are made are many. The scarcity and unreliability of statistics available, the lack of uniformity of treatment, the vast range over which the average is struck, etc., vitiate the conclusions to which one may be led by relying too much on such figures. A theoretical calculation of this type brings the income to about Rs. 5 a month. Even such an income is far too low to ensure a satisfactory balanced diet on a subsistence level, not to mention provision for clothing and shelter.

A more reliable and closer approximation to facts may be obtained by a survey of actual incomes in villages. An average struck from figures collected from over 50 villages of Matar Taluka by the present writer gives an income *per capita* of Rs. 14 per annum.¹ This taluka is in a comparatively prosperous part of Gujarat, which province itself is better-off than many other provinces of India.

Another way of getting a more accurate picture of the income is to work up from actual expenses, as some of the income in agricultural communities is derived from the land direct, and does not figure in terms of money. A calculation based on a survey of over 600 villages of the Central Provinces discloses a *per capita* income of Rs. 12 per annum.²

¹ *A Survey of Matar Taluka*, p. 70.

² *Report of the C.P. Government Industrial Survey Committee*, Part I, Vol. I, p. 6.

This amount will not cover even half the cost of a low subsistence diet. Therefore, even assuming that all the income is used for obtaining food, the people have to remain half-fed at best.

Why it is Low

Granting that the standard of living is below the subsistence level, we have to probe deeper to ascertain the reasons. It is wrong to attribute low standards in India to the inculcation of ascetic ideals. People go half-starved, not because they desire to be slim but because they cannot get enough to eat. They have no purchasing power to make their demand effective. When the people are industrious and intelligent it is no argument to say that their production is low, or that they are inefficient. We have to look elsewhere for satisfactory reasons to explain why their productivity should be so low.

A person may be willing to work hard, and may be intelligent, but may have no opportunity to occupy himself gainfully, or if he does have employment it may not bring in an adequate return for his labours. The standard of living of an individual under such conditions is bound to be low due to no fault of his. This appears to be the position in our country.

Lack of Opportunities

Even a cursory glance through the list of imports and exports will reveal the fact that the bulk of our imports are manufactured goods, and the exports are largely raw materials. The process of transforming a raw material into a manufactured article involves employment for the people. When we export raw materials we are creating unemployment for our people by depriving them of the opportunities of

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work. At the same time, when we import finished goods we employ foreign labour to the exclusion of our own. Applying this reasoning, our foreign trade is an open record of the transfer of our opportunities of employment to foreign countries.

How this is directed is a long story. No protection was afforded to struggling infant industries. Railway freight rates are designed so as to encourage the shipment of raw materials from the ports and the transport of finished goods to the interior. Heavy taxes and dues at the source of raw materials, a bad policy in regard to communications, the building of roads and canals, etc., have discouraged the growth of industries. Hardly any research calculated to help the villagers' production has been carried on. Government expenditures have not patronized local production and have set wrong standards of efficiency, leading to large supplies for Government departments being obtained from foreign countries. The educational system was not calculated to help young men to enter industries and commerce as entrepreneurs. It will not be possible within the space at our disposal to go into the details of these false steps, but the above enumeration indicates to the reader the methods which have deprived the people of their birthright. Added to these are the uncertainties of a countryside dependent on the vagaries of the monsoon for its agricultural operations. These fortuitous circumstances have produced the unemployment and underemployment of the people, thus lowering their income.

Unremunerative Stages

The return that a manufacturer obtains at the various stages in the course of processing the raw material into the finished product varies. In the earlier stages—near the raw material—the return is small, and as the article reaches the

consumption stage the gain increases. If all these stages take place in one and the same country, the income of the country, as a whole, will not be affected. The distribution of wealth may not be uniform, but will adjust and level itself in time. If, on the other hand, these various stages are so separated by political boundaries that the badly-paying earlier stages are in one country and the more remunerative later stages are in another country, without the possibility of settling down to a common level, then we have watertight compartments in which the country undertaking the earlier process of manufacture has to be content with a lower income than the country where the finished goods are produced.

For instance, let us examine a chain of producers working on the basis of cottage units, manufacturing hair-oil from groundnuts. If a farmer with about four acres of cultivable land, which is more than an average holding in India, produces Rs. 100 worth of groundnuts at a cost of Rs. 70 for seeds and land operations, taking five months for the crop, the farmer's income will be Rs. 30. If he is fortunate enough to raise another crop during the year, of wheat, he will have a net income of say Rs. 50 from it. These gains, totalling Rs. 80, will represent his annual income.

If an oil-presser takes Rs. 100 worth of groundnuts and presses out oil, the operation will take him about a month, during which period the upkeep of his bullocks will cost Rs. 10, and he will obtain as a product Rs. 125 worth of oil and Rs. 25 worth of oil-cake. Thus he gets an income of Rs. 40 per month. Where adequate finances are forthcoming to enable the oil-presser to stock sufficient groundnuts for crushing during the whole year he can secure an income of Rs. 500 per year at this rate.

The hair-oil manufacturer can convert this Rs. 125 worth of groundnut oil into scented hair-oil, at a cost of about

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Rs. 245 for deodorizing, scenting and bottling, in about a month, yielding Rs. 500 worth of such scented oil. This will give him an income of Rs. 130 per month, and with the necessary capital he can get employment throughout the year, netting an income of about Rs. 1,500 annually.

The facts stated above show that owing to the vagaries of the monsoon and the nature of his calling the farmer gets only Rs. 80 per year, while the oil-presser, if he can command sufficient finances, can manage to occupy himself *throughout the year* and obtain an income of Rs. 500 per year; similarly, the manufacturer of hair-oils may gain Rs. 1,500 per year. We notice that as the process comes nearer the consumption stage more capital but less personal labour is needed. This aspect will be even more accentuated if centralized methods are resorted to. As it is, to keep one hair-oil manufacturer engaged right through the year we need about a dozen farmers on the verge of starvation to supply the requisite oil-seeds. Even then, if all were in the same country, in course of time the varying incomes would adjust themselves within a limited range. But if the farmers were in India and the manufacturers in Germany this variation in the income of the different groups would never have the opportunity of readjustment but would lead to increasing divergence resulting in progressive poverty in the former country and accumulated riches in the latter—the raw-material producers being assigned in perpetuity low-income-yielding occupations and the manufacturing, ruling nations reserving to themselves the more profitable avocations. Thus we see the reason for the competition amongst the nations to be the ruling race, and to hold others in bondage as the raw-material producers for themselves. This is the basis of all imperialism, which consigns the less remunerative task of producing raw materials to the subject races, and reserves the more remunerative

functions to the rulers. This method of dividing the functions between nations is bound to consign the raw-material producing nations to an economic state of progressively increasing poverty which will ultimately result in the deterioration of the culture of those nations. In the course of the last century, with the growth of industrialization in Europe and America, India has slowly slipped into this lower order. Hence the low share she is getting out of the great wealth the human race is pouring out today. The problem is not one of production but one of a fair method of distributing the gains obtained.

Change in Demand

India is a country abounding in labour wealth. The people will only find a market for the exchange of their wealth when articles of consumption whose main costs are labour costs are in demand. With the growth of mechanized industries in the West and a drive towards labour-saving devices, the market was flooded with goods in which the labour cost was very low, the major part of the cost being for raw materials, transport, insurance, marketing, and overhead charges. Thus the capitalists established themselves in the markets everywhere, while labour was ousted. In India, with a scarcity of capital and abundance of labour, this situation intensified unemployment and underemployment, when even such labour cost as entered into the cost of the manufactured articles came largely from foreign lands. The only wealth of the masses in India is labour. The market for this labour has been much restricted by the advent of the products of centralized industries in the world markets and the cultivation of a philosophy of multiplicity of wants by the well-directed propaganda of vested interests. In India the satisfaction of wants so created has been directed towards goods imported

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from abroad by political control. In the absence of a market for the labour wealth of India the purchasing power of the masses has fallen low.

Money and Credit Economy

Our country has a large internal market for all kinds of goods. If this market had been properly husbanded and directed the people would have had a never-failing demand for their products. In the last century, the growth of money-economy with its monster-child 'Credit' spread its tentacles so far and wide that our internal market has been totally disorganized and captured by foreign interests. For transferring purchasing power, *money and credit are unsurpassed*. An honest exchange does not consist in such transfers of material values only, but should also include transfers of human and moral values. These last two are not represented in a money transaction. The bargaining power of a seller of perishable bananas or fish is not on a par with that of the buyer, the holder of imperishable gold. The growth of money-exchange has smothered all considerations of equity and justice. As long as the buyer pays the price, nothing further need be said about the transaction. Under these conditions commerce can extend its markets to the uttermost corners of the world, but cannot guarantee an equitable distribution of wealth and values. This unrestricted extension has resulted in the export of raw materials to distant industrial countries and imports of manufactured articles from such far-off manufacturers, with the consequent intensification of unremunerative production in our own land, as noticed in an earlier paragraph.

The old Indian system of distribution was a combination of money and barter exchange, where humane considerations had a place. Certain artisans, like the carpenter and blacksmith,

and menials, like the barber and the sweeper, were guaranteed their subsistence by a payment in kind at the time of harvest in consideration for certain basic services to the community. This system, known as *baluta* or *puddi* or *dan*, is fast disappearing, leaving the former beneficiaries to starve out of existence in the competitive struggle of everyday life.

II. WHAT IS THE TENDENCY?

Even if the income of the people was low, it would not be a matter for anxiety if the tendency over a long period was showing a steady rise. To be able to observe this tendency we have no adequate statistics prepared at periodical intervals on the same basis and principles. In the absence of such information we are, therefore, thrown back on the common-sense method of proving it. This method is perhaps the most reliable. An increase in the number of millionaires does not necessarily prove the country's prosperity. About 90 per cent of the population lives in villages, and so our inquiry should be directed towards assessing their financial conditions in the past and the present, by actual examination of their assets and social customs. Such a change in their state is well reflected in (a) their houses, (b) their hoarding of gold or investment in ornaments and (c) the carry-over from their old customs.

The Evidence

(a) Houses and Buildings

Any observer who comes to take stock of the state of the dwelling-houses, public buildings, etc., in the villages will not be long before he notices that most of the substantial buildings are old ones, in bad repair, and that there are hardly any new ones of an ostentatious and ornate type. This reveals that the people were well-off forty or fifty years

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ago to be able to spend money on such buildings; while the descendants of those very same people are content to live in the dilapidated ruins of the dwellings their forebears had erected. The financial state of the present generation does not allow of even a sufficient margin to keep these buildings in repair.

There are few public buildings, such as dharmashalas, choultries, temples, tanks and schools, which are of recent origin. People have not had the wherewithal to donate such gifts. This is an unmistakable record of the weakening of the financial resources of the people.

(b) Ornaments

Whatever the habits of the urban people in regard to commercial investments may be, the Savings Bank of the rural population still remains the hoarding of gold, or investment in ornaments. Today the village goldsmith is a rarity. Such as still exist sit before the dead embers of their smithy fires to tell a tale of woe as to how within their lifetime they have lost their profession. This fall in the prosperity of the goldsmith is an indicator of the decreased margins of savings amongst the people.

(c) Social Customs

A customary wail against the budget of the villager is that the expenses on social occasions are excessive. No doubt this is true if we take their present scale of income as the norm. This high proportion of social expenses is itself a proof that their income, which was high enough at one time to allow of such expenditures, has now dwindled, making the ratios between the various items on the budget unreasonable. If a man's income is Rs. 1,000 per annum, and he spends Rs. 100 on marriages, etc., nobody need take up the cudgels

to belabour him for extravagance. When the income of the son of such a well-to-do person falls to Rs. 300 per annum, and he still continues to spend the same amount of Rs. 100 on social occasions, he will certainly be open to charges of extravagance. Social customs the world over are very tenacious. People in all lands, even though willing to forgo items on the menu, will cling on to the standards of social expenditures set up by their forefathers. The lag of this item in adjusting itself to decreasing income has created this so-often-criticized disproportion, and provides valuable evidence that the income of the villagers is steadily falling.

The above three items present an indelible record written with the miseries of a people whose income has shrunk from opulence to poverty below subsistence level.

Competition with the Beasts of Burden

Apart from these long-term evidences we notice that there is a growing tendency for men to compete for the work hitherto done by animals, so that they may earn a meal somehow. Bullock-drawn vehicles are now being replaced by man-power, and horse-tongas by rickshaws. Can these be the signs of prosperity? Indeed the masses have sunk to dire poverty where they would 'fain fill their bellies with the husks that the swine did eat'.

We cannot be blindfolded by the seeming prosperity evidenced by new buildings rapidly rising in suburban areas, nor by the increase in the capital drawn from Indians for working a few industrial concerns, nor by the luxurious lives of city-dwellers. India lives in the villages, and the evidence as to the prosperity or poverty of India has to be sought in the villages.

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III. INDUSTRIALIZATION

Centralized industries accumulate wealth but distribute it badly. Therefore their proper place is for the exploitation of natural resources on a service basis for the benefit of the producers working decentralized units. For example, we can use centralized units for mining and converting iron ore, for rolling steel bars and sheets, but not for making cart-wheels, which latter is the work of the village wheelwright.

On a Service Basis

As such industries need considerable Governmental aid in regimenting labour, maintenance of communications, provision of exchange, and control of tariffs, they are best carried on by the Government on a service basis. All public utilities, power production, transport, etc., can be run with great advantage on this basis. Centralized industries must function as an accessory to the industries carried on by the people on a decentralized basis.

Labour Costs

As we have already mentioned, the labour cost in such industries is low, hence in India they cannot make full use of the labour wealth we possess by industrialization. If we wish to create a market for our plentiful supply of labour we can only do so by decentralized industries. We have to be very sparing in the use of centralized units in our country.

IV. AMELIORATIVE MEASURES

The above discussion in itself contains indications of the ways in which reorganization can take place so as to increase the wealth of the people, and attention is drawn to some of the items below.

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The state should manage forests so as to supply the artisans with the material they need when and how they want it. If the carpenter needs timber, the forests should be so planned as to produce the quality and kind of wood, properly seasoned, at the place where it is wanted.

The mineral wealth of the country should be worked by the state, not for export purposes, but for providing raw materials to be worked up in the vicinity into finished products. As we have already pointed out, trade in raw materials does not bring the highest returns to the people.

Railway rates, tariffs, etc., should be scheduled so as to encourage local manufactures on a cottage basis.

Facilities should be afforded by the state for research and experimentation for the improvement of tools, implements and processes, and an adequate medium should be provided for the dissemination of the information gained. Educational institutions where aspiring young men can equip themselves for production by means of cottage units need to be organized.

Foreign trade should be regulated by the state so as to encourage the export of surplus products and to furnish openings for the people seeking employment.

The evil effects of money-economy should be moderated by a judicious use of barter, and payment in kind. This will entail a certain amount of tax payments being received in kind by the state. Recently Gandhiji has thrown out a suggestion that handspun yarn should be accepted by certain organizations as a medium of exchange.

In many industries, such as tanning, the length of time involved in the process of production calls for adequate financial facilities, without which the tendency to hasten the processes yields goods of inferior quality. Where such finance is called for, arrangements in the form of state aid, loans

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from regulated *mahajans*, or co-operative help, should be forthcoming.

The measures indicated above are largely state functions, but they can also be carried out by private bodies working on an altruistic basis. The All India Spinners' Association and the All India Village Industries Association represent two such bodies attempting, in spite of all the handicaps of private effort, to reorganize the economic life of the great poverty-stricken masses of our land under the advice and guidance of Gandhiji. The Reports of these Institutions indicate the lines on which they have been working to achieve this end and, at the same time, to usher in a society based on mutual goodwill and understanding, the lack of which in our modern competitive world plunges us periodically headlong into wars of destruction, on a diabolical scale made possible by the advance in present-day methods of production.

By SIR DATAR SINGH

The standard of living in India was until a few years ago proverbially low. In villages people lived like the men of primitive ages. They wore only a few coarse garments, ate rough and scanty fare, and lived in scattered thatched huts. The fruits of wild shrubs and trees were staple foods. Their time was mostly spent in tribal disputes and warfare. The standard of living in cities was higher than in the villages, though it was much below what is considered normal in Western countries. Barring rich and advanced families, the average citizen lived in an insanitary flat or building. His food, lacking essential vitamins, was definitely insufficient for

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the healthy growth of his body. By living in unhealthy surroundings, ill-fed and ill-clothed, he was steadily losing his energy and vitality.

It is an interesting study to trace the causes of this low standard of living. By diagnosing the disease one can hope to find the remedial measures. Below are given some of the outstanding causes which are responsible for the present position.

Poverty

The root cause of the low standard of living is the appalling poverty of the people. It is common knowledge that the average income of an Indian is far below that of the inhabitants of Europe and America. In this sub-continent, where thousands of people can barely have one meal a day, it would be too much to expect that they should have any idea about the standard of living. As the means of the people are limited, everything cheap is always in demand, cheap wages, cheap labour, cheap cloth and cheap wares.

The question then arises, why are the people so poor in India, which is essentially an agricultural country? Is the soil poor or has it deteriorated? Is it due to an act of God? Certainly not. The rich, vast and fertile lands of India have been the envy of the world. The saffron-growing fields of the Kashmir valley are an instance of the bounteous gifts which Nature has bestowed on India. Why then are the masses writhing in the chill grip of grinding poverty?

Illiteracy

The plain answer is that it is due to lack of education. The diffusion of education in India has been very slow. While other countries have made rapid progress in education in a very short time and have been able to educate 95

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per cent of their people, in India the percentage of the educated has not risen above 10. The result has been that the villagers have remained steeped in old and archaic methods of agriculture. In other countries people were growing two blades in place of one, but the Indian peasant remained where he was. He used the same old plough and the same old harrow. His bullocks, half-famished and bony, could hardly plough land sufficient for his sustenance. He could not follow the scientific methods of agriculture by reason of his illiteracy and ignorance. He could not afford to buy the new and improved agricultural implements because of his traditional poverty. With increase in population, the holdings became attenuated on account of divisions and subdivisions. They ceased to be economic, and the Indian farmer grew to resemble the withered branch of an old tree.

The lot of villagers carrying on cottage industries was hardly better. The introduction of machinery brought about an industrial revolution, and handmade things could not easily compete with machine-made articles. Illiterate artisans had no notion of the industrial and scientific progress which other countries were making, and their indigenous methods of manufacture became out-of-date. The industrial revolution put the craftsman out of gear. Cottage industries gradually declined, and with them the standard of living sank low.

Faulty Methods of Education

In cities, schools and colleges were started. For some time educated youths were absorbed in the Government services, but year after year, as the number of educated went on increasing, the avenues of employment became limited. Everybody could not get a Government post. The result was a large intelligentsia, an undigestible intellectual

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proletariat without any substantial means of livelihood. Parents who had spent much in getting their sons educated were bewildered to find that, for all their education, their sons could not keep a good coat on their backs. Thus no appreciable improvement could be made in the standard of living.

It soon became apparent that the education imparted in schools and colleges did not equip students properly for the ensuing struggles of life. It had serious defects. The educated youths shunned manual work, and did not understand the dignity of labour. They had no industrial training, no education in arts and crafts. The great poets and authors they had studied had certainly awakened their mental powers, but these did not help them in earning their livelihood. As was observed by His Excellency Lord Willingdon in a speech delivered at the University Conference of 1934, 'From the point of view of the students it is heart-rending that many young men who have fought their way successfully up the educational ladder and have gained high degrees and distinctions, often in spite of many obstacles and handicaps, are yet unable to find means either of maintaining themselves or of serving their fellow men. From the point of view of the country it is disastrous that the labours and initiative of these young men should be running to waste. Keen and unmerited disappointments accentuated by irksome inactivity are apt to lead high-spirited young men into dangerous and unexpected channels'. The problem of making drastic changes in the educational curricula began to engage and is still engaging the serious attention of our statesmen and politicians. It is realized that unless Indian youths are trained in various arts and industries the pace of progress may be retarded and discontentment may grow.

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England in the hour of her trial. Many new industries, for example the textile and sugar mills, have been successful, and their large profits have encouraged industrialization. Technicians and experts were in great demand, for trained labour was indispensable for the new industries. Many people went abroad for technical training, and saw for themselves the gigantic progress which other countries had made. They imbibed new ideas and felt keenly the vast difference between the standard of living of persons living in those countries and that of their countrymen in India. They brought new standards and ideals back with them. Buildings of ultra-modern design began to be constructed. A new emphasis was laid on sanitation and hygiene. In great cities like Bombay and Calcutta, Improvement Trusts were formed to make those cities better and healthier, and many modern housing and drainage schemes were carried out. An upward tendency in the standard of living became noticeable everywhere.

In the sphere of education several ambitious schemes have been set afoot. Vigorous efforts have been made for the education of the masses, and are still being made. Numerous schools have been started in towns and villages, and in many provinces compulsory education has been introduced. New ideas of progress have begun to permeate the hearts of the people, and the country is pulsating with new life.

These measures account for the gradual ascent in the standard of living.

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Shyness of Capital

One reason why large-scale industries could not gain a foothold in India is that capital is very shy. Those who have spare money want to hoard it and do not like to part with it. *The benefits accruing from pooling resources and from joint work and labour have not been generally realized, with the result that vast capital is languishing in India which might otherwise have been usefully employed.*

Growth of Population

The steady rise in population has greatly affected the standard of living. It is well known that the population of India has doubled within the last few decades. It is now about four hundred millions. The long spell of peace, the high birth-rate, and modern scientific discoveries for fighting epidemics and infectious diseases have contributed towards this phenomenal rise. But multiplication in population without enhancement of the sources of income has the natural effect of reducing the standard of living. Where four instead of two persons share the same income the level of income is sure to fall.

All the above circumstances taken together brought about an unfortunate state of affairs. The struggle for existence became keen. Hundreds of B.A.s and M.A.s competed for jobs carrying a salary of Rs. 30 or Rs. 40 a month. Mr Vishnu Sahai, I.C.S., a Registrar of Co-operative Societies, in evidence before the United Provinces Unemployment Committee stated that he got several applications from B.A.s for a clerical post on a salary of Rs. 20 a month.

Ameliorative Measures Taken

Realizing this state of affairs the Government introduced several beneficial measures. Vast canal projects and

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colonization schemes were initiated. The waters of several large rivers which had previously run to waste were harnessed. Huge dams were constructed with masterly engineering skill. From the Sukkur Barrage, the Upper Chenab, the Lower Bari Doab and several other canals millions of acres of arid land have been brought under cultivation. Hundreds and thousands of people have taken to agriculture and are making a good living. Scores of new cities, towns and villages have sprung up. Great new markets for the purchase and sale of commodities have come into existence, and have given employment to thousands of people. Their income has substantially increased and with it the standard of living has swung up.

In nearly all provinces measures have been taken to remove agricultural indebtedness, and sincere attempts are being made to improve the condition of the peasantry. Departments of Agriculture have been set up to make landlords and tenants understand new scientific methods of agriculture, and intense propaganda for rural uplift has been set afoot. Shops for the sale of better implements of agriculture at cheap rates have been opened and are within the reach of all. The advantages of sowing good seeds, of scientific farming and of rearing a good breed of cattle are frequently impressed upon those interested in agriculture. Every encouragement is given to those who work energetically for the improvement of their farms and produce. Research institutes and agricultural colleges have been started, which have benefited the people to a great extent and have undoubtedly contributed towards the better living of a substantial majority.

Within the last few years, especially since the end of the Great War of 1914-18, many new factories and workshops have come into existence. One great lesson of the last war was that industrial India would be of enormous help to

luxury and their steady penetration into the rural areas is the best proof of this. It is also evidenced by the steady rise in the national income per head. Quite a number of attempts have been made during the last seventy years to compute the income per head in India on various lines and with various objects. It is a matter of satisfaction that, with successive computations, its figure has tended to mount up. No doubt the increasing national dividend would have had even happier effects with a better distribution and wiser expenditure of wealth—with a desirable change in the economic outlook. But, even as things are, there can be no reasonable doubt regarding the rise in the standard of living.

It is an economic truism that any substantial and lasting improvement in the standard of life must be based upon a proportionate growth of national income and production; and there is ample evidence of the expansion of production in India in the sphere of manufacturing industries as well as in that of agriculture. Witness the great expansion of our textile industries, our sugar industry, our cement industry which have, each in its line, achieved the ideal of self-sufficiency in India. Witness also the rise and progress of the iron and steel industry, which has placed Jamshedpur on the map of the world as one of the leading centres of production. Nor can we neglect in this connexion the striking and rapid industrial evolution of Indian States, like Mysore. Surely such developments could not have failed to expand the national income of India. They must also have had important and favourable repercussions upon the income and standard of living in a great many rural districts. The growth and expansion of new industrial centres like Jamshedpur and Ahmedabad, like Cawnpore and Nagpur, is bound to increase the income of many rural areas and to introduce better notions and higher standards of comfort in them.

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Improvements in our rural economy, too, have contributed their share to this growth of the national income. Let us give their due to such important lines of progress as the expansion of the total area irrigated by ten million acres in a single decade, and the policy of crop-improvement which has increased the yield of nearly twenty million acres.

Some Unfavourable Influences

But the beneficent influence of the factors referred to above is neutralized, to a considerable extent, by certain unfavourable influences. Amongst these latter, easily the first place is occupied by the rapidly growing pressure of an uncontrolled growth of population upon the means of subsistence. Recently some economists have attempted to describe the condition of India as that of 'relative over-population'. But it is obvious that even if, in a future condition or ideal economic development, India can support a larger population, under existing circumstances the rapid increase of numbers is doing immense harm. It leads directly to increased fragmentation of holdings, to a steady deterioration of agriculture and to the multiplication of landless peasantry. An Indian economist, Dr Radha Kamal Mukerjee, who has made a special study of both land problems and the population problem, has expressed his conviction that 'with agriculture on a steep incline, pushed down by constant population increase and recurrent droughts, India's industry and trade cannot contribute usefully to the solution of her poverty and economic backwardness'. The great density of population in many parts of India tells its own tale. We are witnessing a race between the growth of population and the rise of the standard of living in which the former presses the latter very hard indeed.

Among other contributory causes of our low standard of living might be emphasized mistaken standards of consump-

tion on the part of both the wealthy and the poor. Taken in the mass it is the extravagance of the poor on ceremonial occasions and in litigation that costs the country more. The Royal Commission on Agriculture has also drawn particular attention to another aspect of error in consumption—malnutrition due to unwise choice of dietary. It leads to more money being spent on a less nourishing standard of consumption.

In the above discussion attention has been drawn to the main factors in the improvement of our standard of living. We have to plan our population on both the quantitative and qualitative aspects, to improve the distribution of wealth and the standards of consumption; to increase the national income alike by industrial progress and agricultural development. It has to be, obviously, a many-sided and properly co-ordinated process of evolution; for no one line of progress is adequate by itself to raise the standard of living materially and to solve the problem of poverty in India.

Importance of Agricultural Development

There are some writers to whom the problem of India is essentially an industrial one, who attach an exaggerated importance to industrialization, and who would employ hot-house methods to push it forward at any cost. The better view would seem to be that we should aim at a well-balanced economy as efficient as possible both on the agricultural and on the manufacturing side. These two sides are essentially supplementary in character, and notable success cannot be achieved in either unless there is simultaneous progress in the other. Improvement in rural economy is required to increase the purchasing power for the products of industry, as well as to permit the necessary exodus of labour from rural areas to industrial centres. Agricultural

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progress can act directly and beneficially so as to raise the standard of living in this great agricultural sub-continent. With the population of our country increasing at the present rate, a considerable development of agriculture will be needed merely to feed 'the teeming millions'.

It is on the side of our country's rural economy that there is most room for a great *programme of public works*, a programme which will help to raise the national standard of living and to increase the purchasing power of the rural masses, thus benefiting our industries indirectly. It is on the side of rural economy that we can 'prime the pump' most advisedly. For one thing, there is a great programme of rural reconstruction which has long been awaiting its financial requirement and which is in fact overdue. The mere mention of the chief items of such a programme will show the vast scope, great importance, and urgent character of the public works required. The first item that will occur to anyone comprises the tasks of a great extension of irrigation and of agricultural power. Land improvement, too, has been neglected and has, so to say, to be initiated especially as regards the prevention of the erosion of the soil. The task of flood control is of obvious importance and needs no emphasizing. We have also to envisage how to make our forestry a more useful auxiliary to our agriculture. While on these topics it is worth while reproducing here the recent dictum of Dr Henry Kennedy, secretary of the Irish Agricultural Organization, on the agricultural problem of Ireland, which is not dissimilar to that of India: 'An increase of profitable agricultural production would raise the standard of living, not merely of the farmers, but of everybody else in Eire. The multiplier process would be best initiated in Eire by an increment of agricultural exports, the financial benefit of which percolated throughout the whole economic system.'

These remarks deserve to be borne in mind when planning a programme of public works for any predominantly agricultural country.

Those who profess to find the welfare of India in a predominant industrialization are either led away by the examples of England and America or have been repelled by the difficulties in the way of rural reconstruction and agricultural advance. True it is, as has been well pointed out by Professor Kale, that 'no economic revolution is to be expected in the rural areas, and there is no short cut to our goal'. But where a task of primary national importance has to be achieved we may not shrink from arduous or prolonged efforts. As the pivot of rural reconstruction we have to reshape the primary co-operative society, enlarging its functions gradually and tentatively. At all costs we must have a much enlarged and improved co-operative system, with an adequate measure of state guidance and state help. We have to improve the systems of land tenure and to rouse the Indian landlord to undertake his true role—that of the pioneer of capitalistic agriculture. These are but a few among the numerous aspects of rationalized agriculture; and hence we have to multiply our resources for the work by concentrating them on preliminary experiments at the most favourable points.

As regards the too-tempting examples of England and America in the sphere of industrialization, neither our traditions and aptitudes nor our equipment and requirements make them suitable for us. A far better model for the development of India is to be found in France with its well-balanced development in manufacturing industries and agriculture. As economic historians have noted, development on such lines forms 'a valuable insurance policy against unsettled times and has decided compensations in the long run'.

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After-War Problems of Industrialization

Coming to the equally important topic of industrialization, it is to be emphasized that while the present world war is sure to give a considerable impetus to our manufacturing progress it raises a great number of new and important problems. Without aspiring to a detailed foreknowledge of the world conditions at the close of the present war, we might assume that the economic world will be in something like the same disorder as manifested itself after the first world war, but that its *maladies* will be even graver and also more dangerous. Currencies will be in utter confusion, economic warfare more embittered, and enough of the totalitarian spirit will be left in the world to make abrupt decisions and sudden changes of economic policy on the part of individual states *fairly frequent*. Under such circumstances *flexibility* of economic policy is a matter of the first importance for India. Such a policy should find its expression mainly in the development of the key industries and in the steady expansion of vocational education. The 'Bevin boys' scheme forms a welcome precedent and will have to be continued and enlarged, if possible. With these two essential conditions fulfilled, India will be in a position to vary and expand her industrial policy as required by the changing conditions of the economic world.

What the exact lines of the industrial policy of India are going to be will depend on whether the Empire is to work out a common policy or whether India is to strike out a line of her own. There are advantages and drawbacks peculiar to each of these courses; though, on the whole, common action is the more desirable, provided that all parties observe the rules of the game. With a common economic policy for the Empire, or even with co-operation between India and Eng-

land, the industrialization of our country will be very rapid in many directions. Access to the great capital markets will be greatly facilitated; and the very large amounts necessary for a thorough industrialization as well as a sound agricultural development may be placed at our disposal. Following the same policy, we can count upon obtaining managerial skill and technical guidance in ample measure. The 'Bevin boys' project might be expanded so as to meet our full requirements of trained industrial labour. As the demands of the Commonwealth members come to be pooled, a large number of metallurgical and other industries could be developed which would otherwise have to remain long on the waiting list. Moreover, the support of the Empire countries would be of great value against economic manœuvres directed by foreign countries against the interests of India. At the same time allowance will have to be made for occasional clashes of interests between the countries thus co-operating; and some consequent limitations and restrictions upon the full programme of the industrial development of India are inevitable.

If, on the other hand, India follows an autonomous industrial policy she might, perhaps, in the very long run, gratify her full aspirations after industrialization. But the pace of development will be much slower, and valuable opportunities will be lost—especially in the post-war period—which may never offer themselves again. Each new experiment in industrialization will have to be carried out entirely at our own risk and charge. India still remembers the short lives of many industries which were started during the period of the last world war.

The country will have to decide between these two alternative policies. Or, perhaps, a compromise might be arranged by which India might grant a preference to England as regards the products of those industries for developing

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which our country is not yet prepared. It could be so arranged that the circle of such preference might grow narrower with the gradual advance of India in such lines. In return for such preference India might receive assistance in other lines of industrialization.

Planning the Industrialization

But, even apart from these after-war problems, far-sighted economic planning in the sphere of industry is of the highest national importance and will have to be adopted. In fact all wise economic organization consists in distributing the resources and factors of production at one's disposal so as to yield the best results; and this is of the essence of planning, whether in the case of the state or of the individual. Instead of considering in casual succession the problems of the promotion or stimulation of individual industries, we have to envisage the full programme of national industrialization in the light of our resources and equipment on the one hand, and our objects and aspirations on the other. In order to obtain anything like a clear perspective of the main lines of planned industrialization in India, it is necessary to consider the chief tasks devolving under it on the state and on the industrialists of the country. Here there is space only to supply a few examples and illustrations. Obviously, it is for the state to inaugurate a general survey of industrial resources and potential lines of progress. This survey will form the necessary basis for any planning, and the essential condition of the efficient functioning of an Economic Council or Councils working out the plan. If, with the garnering of experience and the development of suitable personnel, it becomes advisable to introduce institutions like the National Board of Industries and the National Investment Board to regulate investment, here again the initiative and leadership will rest with the

state, though the co-operation of experts and industrialists will be highly desirable and necessary. The same statement will hold good in the solution of the important problems of fuel and power. Government agency will also be to the fore in the formation of Industrial Banks and in the raising of rural reconstruction loans, though here the state action will have to receive the support of our banking experts. While we are dealing with the subject of state action in the sphere of economic planning, it might be noted that the existing provinces cannot be taken as forming the most suitable economic units; and hence it will be necessary to divide the country, for the purpose in hand, into more convenient regions of economic control and development.

We might now turn to some important elements in economic planning as to which the lead must be taken by Indian industrialists—their efforts being properly backed up by Government policies of a suitable character. For example, in improving the present haphazard localization of industry the industrialists must be to the fore, while the state will help by a suitable railway rates policy which will be properly adjusted to the changing phases of a progressive industrialization. We may, by a just gradation, pass on to tasks and spheres in which the industrialist has to forge his own fortunes and be the master of his own fate. Thus while legislation has already improved the managing agency system to some extent, the task of bringing that system to the high pitch of efficiency of which it is capable lies pre-eminently in the sphere of the Indian entrepreneur. It is for him, too, to bring up the industrial units in the country to the optimum size. It would appear that while in determining the proper unit of business control there is much to be said for concentration, in fixing the size of the unit of production all the economies are not on the side of the larger unit. It would

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also be a material contribution to industrial planning in India, if the Indian industrialist got rid of his isolationist attitude, which so often leads to unhealthy internal competition. He might learn with advantage to co-operate with others of his class, in purchasing raw materials at home and in marketing Indian products abroad, as well as in recruiting and organizing a well-trained and contented labour force. It remains to be added that, in a programme of industrial planning for India, there should be a correct perspective of the large-scale and small-scale industries—the latter being specially suited to the national genius, and particularly needed in the rural areas to supply subsidiary occupations. They have a great part to play in the industrial development of this country.

But while we entertain such high expectations from the future activity of our entrepreneurs and industrialists, it is well to ask whether India is fortunate enough to possess a correspondingly efficient class of such leaders of business. While our labour is forging ahead in efficiency with war-time training of a many-sided character, and has been deserving encomium from the American Technical Mission, is the capacity and skill of our business leaders going through any similar development? Unfortunately, there are no very marked indications of progress in this direction. It would certainly be going too far to say that a land which has produced the Tatas and the Wadias and a Rajendra Mookerjee is wanting in industrial talent. There are also a few entrepreneurs in our country who have sent their sons and successors abroad *in order to study foreign technical methods*. But generally speaking India has to rely too much at the present time upon one particular type of entrepreneurs—the specifically commercial and speculative type. As Dr Lokanathan, a well-known writer on Indian industrialism,

has put it, in India we rely too much 'on the old-fashioned type of men who have made some money in trade and commerce and gained knowledge of industry by empirical methods of management'. He goes on to say that such entrepreneurs are definitely an anachronism under modern conditions. Their continuance in Indian industry is responsible for the present parlous condition of many of our industries. The same fact is emphasized by many other authorities on Indian economics.

It is a truism of economic history that different types of entrepreneur are needed for each stage of industrial development and for every type of industry. In fact a country industrialized on modern and highly complicated lines needs a great many different types of entrepreneurs. The commercial and speculative type of business leader is no doubt valuable in his way; but we want side by side with that type industrial leaders with a technical and scientific training who can utilize the results of scientific research and knowledge to the full, and who take a legitimate pride in the organization, extension and perfection of their plant for its own sake. They attempt to secure perfection in their products in order to fill to the full the measure of their gifts and ambitions. To secure such a class of entrepreneurs is a difficult task for any country in the world; and it is to be noted that some decades ago eminent industrialists of America like Schwab were already sceptical of finding an adequate quality and supply of talents to meet the enormous demands of industry on a modern scale.

No doubt in the course of decades India is sure to develop the right types of business leader by the sure, though long, process of natural selection and survival of the fittest. But here there is one more argument for a fruitful co-operation between Indian, British and American industrialists. If such

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a policy is followed skilfully and in the light of true industrial diplomacy, such co-operation will have a high educational value for our own industrialists, while the introduction of new industries on the newest lines and on the largest scales will be rendered certain and expeditious, and attended with the minimum sacrifice.

With the advent of a system of planned economic progress, protectionism is sure to undergo a considerable change as regards its significance and criteria. In fact, in an important sense, protection will be subsumed into economic planning. Even from its beginning, protection has been the weapon of a half-conscious economic planning, since it was meant to divert national resources from the existing industries to others which were assumed to be more productive. This is the avowed object of economic planning, which aims at distributing the sum total of national resources between industries, new and old, so as to yield the best results. In the past it has been objected to the system of discriminating protection prevailing in India, that it imposes a few conditions on the extension of tariff assistance. But it is obvious that "in a regime of planned economy such conditions and criteria are sure to be multiplied. For under it the claims of any particular industry to protection will have to be considered, in relation not only to the whole plan of industrialization and agricultural development, but in relation to a well-conceived policy of the proper distribution and consumption of wealth.

Such is the vision—or rather, a glimpse—of the many-sided and properly co-ordinated development of India on the economic side, which might result in a highly gratifying development of the national standard of living. The realization of that vision will require decades of strenuous and unremitting exertions guided by wise, well-informed and far-sighted leadership.

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PROVINCIAL LEGISLATIVE ASSEMBLIES: ELECTIONS OF 1937

PROVINCE (1)	POPULATION (1931 census) (2)	ELECTORATE (3)	PERCENTAGE OF (3) TO (2) (4)	TOTAL NUMBER OF VOTERS IN CONTINGENT CON- STITUENCIES * (5)	NUMBER OF VOTES POLLED (6)	PERCENTAGE OF (6) TO (5) (7)
Madras ...	46,740,107	6,436,760	13.8	6,145,450	3,171,163	51.6
Bombay ...	17,992,053	2,609,457	14.5	2,335,699	1,209,298	51.7
Bengal ...	50,114,002	6,695,483	13.4	6,299,429	2,586,404	40.5
United Provinces...	48,408,763	5,335,309	11.0	5,137,093	3,362,736	59.3
Punjab ...	23,580,852	2,686,094	11.4	2,401,637	1,529,890	63.7
Bihar ...	25,727,500	2,412,229	9.4	2,308,397	1,367,184	59.2
Central Provinces and Berar ...	15,507,723	1,741,364	11.2	1,713,166	955,869	54.8
Assam ...	8,622,251	815,341	9.5	731,898	522,273	71.4
North-West Frontier Province ...	2,425,076	246,609	10.2	246,009	179,529	72.8
Orissa ...	5,306,142	520,225	9.8	490,022	288,514	58.9
Sind ...	3,887,070	639,043	16.4	614,942	333,589	54.2
TOTAL ...	248,311,539	30,137,914	12.1	28,424,342	15,506,454	54.6

OXFORD PAMPHLETS ON INDIAN AFFAIRS
No. 5

DEMOCRACY. IN INDIA

BY
A. APPADORAI



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THE growth of large-scale democratic institutions in India is a development of the last ninety years, and although the basis of democratic government has already been established in the provinces, it scarcely extends to the centre. John Stuart Mill's primary condition, that representative government can only apply to a society willing to accept it, has long been fulfilled. India is both willing and anxious to accept democracy: not the desire but the means are lacking to implement it. This pamphlet reviews the various steps which India has taken along the democratic path, proceeding always from the conviction that democracy is superior to all other forms of government. The author then addresses himself to the problem of the future by outlining a plan for the establishment of fully representative government, and discusses how, once established, it can be successfully worked and preserved.

Dr Appadorai's *Dyarchy in Practice* (1937) won him recognition as a clear thinker on Indian political issues. In *Revision of Democracy* (1940) he showed a critical consciousness of democracy's weaknesses while remaining its ardent supporter. His *Substance of Politics* (1942) provides the general reader, as well as the student, with a clear and modern introduction to politics.

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to stern necessity, for the Indian Councils Act of 1861, which for the first time recognized the right of the Indian people to representation in their legislative bodies (although the elective principle was conceded only later), was passed primarily because the Mutiny of 1857 revealed the gulf that had existed between the rulers and the ruled, and some means had to be provided to bridge that gulf. The Act accordingly provided for the nomination of a few non-official members to sit on the Governor-General's Council and on the Provincial Councils. The Councils' power was strictly limited to the making of laws; they could not inquire into grievances, call for information, or examine the conduct of the Executive. The democratic element of the Act is obvious: it for the first time admitted representatives of Indian opinion to the Legislatures of the country; and ensured publicity and discussion in the law-making process. The Indian Councils Act, 1892, improved on the Act of 1861 in two ways: in effect, though not in law, it introduced the principle of election, some of the non-official members being nominated from persons 'recommended' by recognized local bodies (district boards and municipalities) and Chambers of Commerce, or by the non-official members of the four Provincial Councils in the case of the Council of the Governor-General; and, secondly, the Councils were given the right of asking questions and of discussing, though not of voting upon, the budget.

The Minto-Morley Reforms of 1909 form the next important landmark. They increased the size of all the Legislative Councils, gave legal recognition to the elective principle, provided for non-official majorities (of elected *plus* nominated members in all the provinces and of elected

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members alone in Bengal), and extended the powers of the Councils by giving them power to move and vote on resolutions on all matters of general public importance, including the budget; but these reforms cannot justly be described as embodying any new policy. They represent only an extension of an old principle; the change introduced by them was one of degree and not of kind, the object being to associate the people with the Government in the decision of public questions to a greater extent than before. Morley himself repudiated the idea that the Act of 1909 was in any sense a step towards parliamentary government. He accepted and even emphasized the contention of Lord Minto's Government that they were not aiming at 'the transplantation of any European form of representative government to Indian soil'. Their aim was rather to improve the existing machinery, or to find new machinery, in which educated men could satisfy their natural aspirations to share in the government of their country.

Soon, however, the fatal weakness of the Reforms revealed itself: they brought in an element of challenge and obstruction, influence without responsibility. The Great War (1914-18) provided an opportunity for a striking manifestation of India's loyalty and co-operation. The announcement of 20 August 1917 in Parliament was almost an inevitable result. The gradual development of self-governing institutions with a view to the progressive realization of responsible government was officially declared to be the goal of British policy in India; and the Reforms which followed embodied that principle.

The Act of 1919 introduced several 'democratic' features in the constitution. The Central Legislature, now made

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bicameral, was constituted with an elected majority in both the chambers, the *Council of State* and the *Legislative Assembly*; besides, it received additional powers to influence and criticize the Government. The Provincial Legislatures were considerably enlarged; there were also elected majorities in all of them. The Provincial Executive was also remodelled, one part of it (the ministers) being chosen from the Legislature and made responsible to it for the administration of 'transferred' subjects, like local self-government, medical administration and public health. Above all, the franchise was widened, and an appreciably larger electorate was created.¹

The new constitution was worked until 1937 with varying success in the different provinces. The idea that he had in his vote the means of protecting himself, and that he could discard those who claimed to represent him if they neglected his interests, began to dawn in the mind of the voter, though as yet only imperfectly. Further, under dyarchy, many persons were brought into touch with problems of administration and with the difficulties of responsible government. The idea that, in legislation and administration, it is necessary not only to convince oneself of the merits of a particular scheme but also, what is more difficult, to convince the members of the Legislature and the wider public, became more and more familiar—a valuable asset in the march towards popular government.

¹ In 1926 there were 6,375,000 electors in the eight Governors' Provinces, which was 2·8 per cent of the population, or 10·4 per cent male electors to adult male population and less than one per cent female electors to adult female population. The electorate for the Central Assembly consisted approximately of 1½ million voters in 1926, and for the Council of State (if we exclude Burma) of 17,000 only.

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Before we come to the Act of 1935, a word must be said about the progress of local self-government, obviously important as a training-ground for democracy. The elective principle was introduced into the system of local self-government by Lord Mayo in 1873 and extended by Lord Ripon in 1883; elections were regularly held for Municipal Councils and District Boards. Gradually these bodies acquired the privilege of electing their Chairmen. From 1920, when the portfolio of local self-government passed into the hands of responsible ministers, local bodies were clothed with enhanced powers, freed from official control, and made responsible to a substantially enlarged electorate.

The Act of 1935 is the last important milestone in the progress of democracy in India. It transfers all departments of provincial government to administration by responsible ministers; proposes to introduce dyarchy at the Centre, which means that, subject to the special responsibilities of the Governor-General, ministers will be in charge of the administration of all subjects except defence, foreign policy and ecclesiastical affairs; and the electorate is enlarged to include between 35 and 40 million voters, which is more than five times the Montford electorate.

The Present Position

Before we consider the future of democracy, it will be useful to analyse the extent to which the democratic principle is recognized in the present governance of the country.

To take the provincial field first.¹ Here the democratic

¹ We leave out of consideration the abnormal position created in seven provinces—Madras, Bombay, the Central and United Provinces, Bihar, Orissa and Assam—by the suspension of popular government.

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then democracy cannot *start* functioning either. Said His Excellency the Viceroy in a statement issued on 8 August 1940:

'It goes without saying that they [His Majesty's Government] could not contemplate the transfer of their present responsibilities for the peace and welfare of India to any system of government whose authority is directly denied by large and powerful elements in India's national life. Nor could they be parties to the coercion of such elements into submission to such a Government.'

The Congress does not, however, accept the position that such a Government cannot be found. Given fair opportunity, it says, it is hopeful of establishing a Government enjoying the confidence of all. It has taken the line that the problem cannot be solved unless His Majesty's Government are willing to make a declaration to the effect that India is an independent nation and that they will raise no opposition to her future form of government being determined, without their intervention, by a Constituent Assembly called upon the widest possible basis of franchise and by agreement in regard to communal representation. It holds that the existence of racial and religious minorities in India is of no relevance in that connexion and that it has always been the intention of the Congress to secure through the constitution to be framed by Indians themselves such protection for their rights as may prove acceptable to the minorities.

'We are all agreed', wrote the President of the Congress to the Viceroy, 'that there must be full protection of minority rights and interests and this protection should be by agreement between the parties concerned. The British Government taking or sharing

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the burden has, in our opinion, made a settlement of the question much more difficult than it should have been. It should allay all real anxiety on the part of the British Government when the Congress declares that it contemplates no constitution which does not carry with it the protection of real minorities to their satisfaction.'

The Muslim League demurs to the proposal for a Constituent Assembly as a veiled attempt at domination by numbers. It says that unqualified Western democracy is totally unsuited to India; that the new constitution for India must be based on the principle that there are two nations in India and therefore India must be partitioned into Hindu States and Muslim States (a proposal to which the Congress is opposed); and that no declaration of constitutional advance for India should be made nor should any constitution be framed and adopted without the consent of the Muslim League.

It is indeed difficult to reconcile these two viewpoints; and it is precisely because this difficulty was faced by the Cripps proposals¹ and a workable compromise suggested by it that it will ever remain one of the most important political documents in Indian history. Briefly, it admitted the first postulate of democracy, viz. the right of the people to make a constitution of their own choice through their own accredited representatives. The Lower Houses of the Provincial Legislatures to be elected anew at the cessation of hostilities, were, as a single electoral college, to elect the constitution-making body by the system of proportional representation. The admission of this right is a great gain

¹ March 1942.

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to the cause of Indian democracy. Further, on the principle of self-determination such of the provinces of British India as might not be prepared to accept the new constitution were permitted to keep out of the Indian Union and to have the constitution of their choice. This was a concession to the Muslim minority. The rights of the smaller racial and religious minorities, to whom the right of non-accession could not be granted because they were not sufficiently localized or self-contained, were to be guaranteed by a Treaty between His Majesty's Government and the constitution-making body.

It is not necessary in this context to inquire why the Cripps mission 'failed'; its importance still remains as a challenge to Indian leaders to frame proposals which will satisfy both the minorities and the majority. The remedy it proposed is a drastic one: 'non-accession' and the creation of more than one independent State within the boundaries of India leave the door wide open for innumerable difficulties. The ideal of a united India is clearly better than a divided India. The unity which the British Government has given India—the unity of law, administrative procedure, of economic and transport policy—ought not to be sacrificed under a momentary sense of frustration. A division of India on a religious basis does scant justice to the common bonds which still unite the Hindus and the Muslims. 'Eleven hundred years of common history', says a cultured Muslim, 'have enriched India with our common achievements. Our languages, our poetry, our literature, our art, our dress, our manners and customs, the innumerable happenings of our daily life—everything bears the stamp of our joint endeavour.' The division of India does

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Legislature¹; they should be the province of special bodies or guilds, each being representative of one cultural group. Those subjects alone which concern all equally, such as defence, the maintenance of law and order, communications, irrigation, commerce and industry, would be the province of the political administration. This plan is subject to two criticisms: social life cannot be divided into watertight compartments, the subjects for legislation by the common Parliament overlapping those set apart for the guilds; and it is a reversion to a medieval idea, for to limit the sphere of political regulation is to ignore the character of the modern state as a social-service state. The first difficulty is not insoluble; the Federal Court, or some quasi-judicial body, may be vested with the power to decide questions concerning the overlapping of jurisdictions. To the second objection, the reply is that the securing of communal peace is under Indian conditions more important than the progress of the social services.

Second, a declaration of fundamental rights may be included as part of the Constitution Act. There are competent critics who doubt the practical value of such a declaration. It has been held that 'fundamental rights would be valueless if they were not implemented by law courts, and if they were implemented, it would lead to great confusion'; that is, because many of them are hardly susceptible to legislative treatment. Phrases like the right to life, the right to property, and the rights to free speech, press and association in a constitutional document mean nothing except in relation to their exceptions and limitations made necessary by the duties

¹ See this point developed in P. Spear, *Communal Harmony* (Oxford University Press, 1940).

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One such expedient widely canvassed in India is the formation of composite cabinets consisting of representatives of all important groups in the Legislature; it is suggested that the members may be elected by the whole Legislature, the number assigned to each group being in proportion to its strength, and announced by the Speaker before the election commences. The cabinet so elected may hold office for the term of the Legislature.

This proposal must be analysed with some care. The demand for a composite cabinet, it must be noted, is not merely one for the inclusion in the cabinet of representatives of minority communities; that demand has already been conceded in a direction to the Governor in his Instrument of Instructions. It is rather a demand for the inclusion in the cabinet of representatives of minority communities who do not necessarily share the political views of the majority party. The argument is a simple one: Government by a party cabinet working on the principle of collective responsibility is inapplicable to Indian conditions. For parties in India tend to be communal, not political; members are elected from separate electorates; a composite cabinet is but the logical corollary of separate electorates. A parliamentary Executive of the English type cannot successfully function in India in the absence of the conditions which make it a success in England, viz an agreement on fundamentals, a spirit of accommodation, and the existence of political parties. Therefore, it is suggested that, until such conditions develop in India, the composite cabinet on the Swiss model may be tried with advantage.

The Swiss analogy is instructive because in some respects conditions in India resemble those in Switzerland. Switzer-

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land has three main racial and linguistic groups (we may call them communities though not in the religious sense), the Germans, the French, and the Italians, the Germans forming the majority. Care is taken by means of a convention to have in the Executive representatives of all the groups. Switzerland knows that the treatment of minorities is one of the best tests of liberty. During the last war, the German-speaking majority allowed the two minority parties, who had only 30 per cent of the voting power between them, an actual majority of four out of seven places in the cabinet.

But the Swiss analogy, we suggest, is not conclusive; for the Swiss have greater political experience and national sense than the Indians have. Besides, the composite cabinet in Switzerland is based on a system of joint electorates for the Legislature, which fosters a sense of give-and-take. Further, composite cabinets are admittedly weak, because they do not have the unity of outlook necessary for strength and the quick dispatch of business; they provide opportunity for continuous irritation and disagreement. Above all, under this system, the Opposition in the Legislature is in the nature of things bound to be weak, for *all* parties are represented in the Executive. This theoretical deduction is confirmed by the experience of the National Government in Britain from 1931 (the nearest analogy to what is in this country called a composite cabinet).

Nevertheless, if reasonable men behave in a reasonable way, and if a working code of principles is agreed upon before such a composite cabinet is formed, there should be no insuperable difficulty in giving the system a trial to win over minority opinion. The fact that the parliamentary system has been relatively successful in those provinces (e.g.

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Bengal and the Punjab) where ministries have been formed not exclusively from single parties but have been coalitions is of some interest in this connexion.

The other expedients which will help to create a sense of confidence in the Administration are the following: (i) A sub-committee of the cabinet, consisting of the ministers in charge of Education, Local Administration, and Finance, may be appointed to ensure better supervision over just those departments of administration about which the complaints of the minorities have been most numerous. (ii) To ensure that a due proportion of revenue is spent for essential minority educational purposes, a standing finance committee of the Legislature (including a due proportion of members from minorities) with advisory powers should prove useful. (iii) A number of advisory committees (including members from minority communities, preferably chosen from representative associations) attached to the executive departments of government may be appointed. A capable minister will find that such a committee enables him to understand the minority point of view and to explain the Government's point of view to the interests concerned.

As Sir Arthur Salter puts it:

'Modern government often involves action affecting the interests and requiring the good will of large sections of the community as a whole. The action cannot be made acceptable without detailed explanation of this necessity, for which mere announcements in the Press are insufficient. In such cases, the prior explanation and the assent of the committees of representative men, who, if convinced, will carry the assent of the several sections of the community who look to them as leaders, will be of the greatest possible value.'

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(iv) Communal representation in the public services, now recognized by the Central and Provincial Governments, must be continued; it is based on the correct political principle that the efficiency of the public services depends not merely upon the qualifications of the entrants thereto, but upon the social harmony in the body politic served by them. It, however, works subject to certain healthy limitations which it will be unwise to remove: (a) promotion is unaffected by it; (b) minimum qualifications are prescribed; and (c) it is not carried too far.

These safeguards should give reasonable assurance to all concerned that their rights are not unreasonably interfered with. On some such basis an agreement between communities ought to be sponsored. Democracy can then *start* functioning with the initial hindrance removed. The extension of the suffrage to *all* adults, which is necessary to complete the democratic process, may be carried out gradually *pari passu* with the liquidation of illiteracy and the provision of the necessary administrative machinery to cope with a larger electorate.

The Preservation of Democracy

Democracy may be threatened either from without or from within—from without, by the state itself falling a prey to aggressive invaders; from within, by an open or veiled dictatorship. The preservation of democracy demands that the citizens should guard themselves against these two dangers.

The task of providing for the defence of India through her own nationals is perhaps the most difficult of all the tasks before the leaders of the Indian democracy of the future.

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The present strength of the military, naval, and air forces in India is known to be *inadequate*; their numbers have to be increased, their quality raised to modern standards, and the pace of Indianization accelerated. Simultaneously measures must be undertaken to improve the physique of the younger generation and to spread a correct understanding of the principles of nutrition. In the reorganization of the army two or three points call for specific mention. It is agreed on all hands that the British element in the army (about 30 per cent) must be retained for some considerable time, not only because we need its technical skill, but also because it has been found serviceable for the purpose of maintaining or restoring internal peace. Experience shows that the British soldier, being considered neutral, is always preferred to the Indian for this purpose. The retention of the British element must necessarily imply some deduction from the power of the Indian people to govern themselves, for British help in defending India can be had only at a price.

Second, care must be taken to see that the Indian army is a national citizen army recruited from all parts of India and from all classes of her population. There is a widespread suspicion in India that the Indian army is predominantly manned by the Muslims, and that (if territorial distribution is considered) the Punjab dominates.¹ The undue preponderance of any one community or territorial unit in the army is undesirable, being an invitation to it to seize power on its own behalf by means of a military *coup d'état*.

Further, the army must be kept in its proper place as the

¹ See *Legislative Assembly Debates*, 1938, Vol. VI, pp. 2462, 2478, 2754; 1939, Vol. I, p. 253.

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servant of the civil authority. It is well known that the constitutional character of English government owes much to this fact and to the subjection of the soldiers to the ordinary courts and the civil law of the land. The infant democracy in India must not violate this first principle of constitutional government.

It need hardly be added that the greater militarization of India implies (i) that the policy of non-violence to which the Congress is pledged has to be revised; and (ii) that the complaints often made by Indian publicists against a good proportion of the Indian revenues being spent on defence must cease; indeed, for some years to come, a greater proportion has to be spent on it if we are to have external security in a self-governing India.

The preservation of democracy against the emergence of dictatorship within the state is equally important. That such emergence is within the range of possibility is proved by the history of modern dictatorships; indeed dictators have, as in Germany, used the democratic methods and machinery to rise to power. Dictatorship thrives primarily on the indifference and the inertia of the masses, and there is no way to prevent it except to evoke and sustain a deep-rooted love of freedom in the common man. Democracy is like everything else—to preserve it we must love it. As J. S. Mill wrote, when a people have no sufficient value for, and attachment to, a representative constitution, they have next to no chance of retaining it. Free institutions necessarily depend for permanence upon the readiness of the people to fight for them in case they are endangered. If too little valued for this they seldom obtain a footing at all, and if they do, are almost sure to be overthrown as soon as the

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head of the Government, or any party leader who can muster force enough for a *coup de main*, is willing to run some small risk for absolute power. The only way to create a deep-seated love for free institutions in the mind of the average citizen is the Aristotelian prescription, education in the spirit of the constitution. It must evoke in the individual a critical faculty, intellectual honesty and fairness, and an intelligent interest in public affairs. But if, instead, it produces timidity, an uncritical herd instinct, selfishness and indifference to common affairs, the Government will sooner or later be turned into a dictatorship, open or veiled. There is obviously great scope for creative thought in the field of education.

Dictatorship, as is evident from the history of Greek *tyrannis* as well as of modern dictatorship, thrives also upon discontent. The hungry and needy will follow anyone who champions their cause, for to them freedom appears an empty ideal. Economic justice is not, therefore, a social luxury, but the first of social necessities; without it democracy becomes either the rule of a propertied oligarchy, or is turned into a dictatorship of the Left. Already, it would appear from reports, there is a strong communistic undercurrent of thought in India, especially among the younger generation. The average *per capita* income in India is estimated at Rs. 77.9 per annum (a little more than one rupee a day, for a family of five), and the average *per capita* taxation at Rs. 5.7 (as against Rs. 1,000 and 260 respectively in the United Kingdom). 'Even a bare existence is possible at this range, simply because the vast majority of our population live in hovels, economize in clothes, know no furniture, rarely drink milk, hardly eat meat or fruits or other expensive though

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nutritious items of diet.' The reorganization of Indian economy to prevent a bloody revolution on the one hand and to provide a durable basis for democracy on the other is urgent: economic planning with the double aim of increased productivity and a better distribution of national wealth is clearly indicated.

The first requisite of efficient planning is a central planning machinery working in co-operation with Provincial Governments. The principles and methods to be adopted must obviously be left to expert decision. The nationalization (or municipalization) of public utilities and their direction for public ends with adaptable commercial business management through the public corporation; the avoidance of large fluctuations in the demand for capital goods through the control of the rate of interest and a wise public-works policy; the development of investment trusts for the rational direction of the flow of investment; a wise protective policy; the encouragement and control of consumers' and producers' co-operation to eliminate middlemen; the discovery and the popularization of new varieties of seeds, manure, implements and improved methods of cultivation; the proper adjustment of the relations between the landlord and the tenant; the co-ordination of rail and road transport; the organization of marketing; the limitation of profits; minimum and maximum wages; income and inheritance taxes; the organization of the industrial unit in such a way as to secure efficiency as well as freedom—these are some of the methods which, quite naturally, the planning body may be expected to adopt in planning for plenty and equity. Side by side with economic planning of this kind, there must be a well-planned effort on the part of the Government to

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develop the 'social services'—unemployment and health insurance benefits, old-age pensions, provision for the treatment of the sick, the improvement of public health, free education and the increase of amenities in general—with a view to improve the lot of the common man in terms of vitality and happiness, to ensure a longer life as well as more energy during life. All this will in course of time lead to the predominance of the middle class in society—which is the greatest bulwark of a stable democracy.

Conditions for Successful Working

Let us suppose that the satisfactory solution of the minorities problem has enabled democracy to *start* functioning, and, further, that the Government and the people have taken the necessary measures to *preserve* it both against foreign aggression and against the rise of dictatorship from within. The question then arises whether it can *work* successfully in India. That depends essentially on the people themselves, on whether they are willing and able to fulfil the duties and discharge the functions which democracy imposes on them. Everyone must form an independent judgement on questions of social policy; vote intelligently for the best men; show tolerance of the views of others; and, above all, have a high degree of civic conscience, particularly, to refuse to use public power for private profit. Men of education, ability, and character must, further, offer themselves for election, and educate the common man. Democracy indeed expects every man to do his duty, each in proportion to his capacity and resources.

The experience of other democracies shows that the common man has not everywhere come up to expectations ;

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intolerance, sectionalism, the free play of self-interest, an easy gullibility and liability to mass-suggestion, and, above all, ignorance and indifference are found everywhere. It does not follow, of course, that these defects cannot be overcome; the evidence from Britain, Sweden, and Switzerland suggests that a high degree of success can be achieved. Nevertheless, the defects cited above serve as a warning that we cannot hope to work democracy successfully unless we develop (i) certain institutions, (ii) certain habits of mind, and (iii) proper leadership.

(i) Among the institutions which ought to be promoted to facilitate the proper working of popular government in India, three are perhaps more important than others, viz. study circles and associations on a non-communal basis, an informed and critical Press, and *political* parties.

It is sickening to find in this country study circles and associations on a communal basis. The greater the effort to form non-communal associations, the greater the chances of an understanding of varying points of view. Besides, social life lived together creates social harmony.

There is no need to emphasize the importance of the Fourth Estate in guiding and reflecting public opinion. The best newspapers in India can certainly stand comparison with the best elsewhere; but the average standard has to be raised, especially that of vernacular journalism. Something has already been done to have a common organization of newspapers (the All-India Newspaper Editors' Conference); but the primary object of the existing body seems to be to regulate the relations between the Press and the Government. Perhaps the best way of attaining the object is for the Press to organize itself into a 'profession' on the analogy of the

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Bar Council, lay down standards, and deny admission to it except on the fulfilment of certain necessary conditions. The possibility of attaching schools of journalism to universities may also be explored.

Third, true *political* parties, though not necessarily party government. The evils of the party system—that it lowers the moral tone and intellectual standards of society, obstructs the free course of opinion, encourages corruption, and becomes a lever for private interests under cover of public weal—have led some to suggest that party organizations and party funds should be prohibited and penalized. It is doubtful, however, if this is either possible or desirable. Here parties have already come to stay. There is the initial difficulty: who is to bell the cat? If a Government in power (itself a party Government) abolishes parties, will it also abolish the party from which it is drawn? If it does not, the road to one-party dictatorship is clear—a possibility with which one has to reckon in this imperfect world. The abolition of parties is likely to make the electorate more ignorant of political issues and indifferent to its political duties. For parties make articulate the inarticulate desires of the masses. They preserve a sense of continuity in public policy. They organize and educate the electorate. They dramatize politics and keep the nation politically alive. Political parties, further, offer the best means in India for the creation of that sense of common citizenship which is now clouded by sectionalism. It is better frankly to recognize the existence of parties and to regulate them. More stringent laws to root out corruption and fraud in making up the party roll and in the conduct of business at party meetings and for the prevention of bribery and undue influence at

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elections; more active participation by upright and public-spirited citizens in party politics; the lessening of the rigidity of parties in the Legislature by the provision of greater opportunities for the 'free' vote of members—these are some ways to overcome the defects of parties. We must rely also on the existence of a mobile body of public opinion 'owing no permanent allegiance to any party, and therefore able by its instinctive reaction against extravagant movements on one side or the other, to keep the vessel on an even keel'. Finally the formation of composite cabinets, as suggested earlier, will take the edge out of the objection to the existence of parties in India.

(ii) More than on institutions, the stability and the success of democracy depend on certain habits of mind which must, as it were, become part of the *mores* of society. For, all the institutions of man are merely so many expressions of his mind.

'It matters little what other gifts a people may possess,' Lord Balfour has said, 'if they are wanting in those which, from this point of view, are most important; if, for example, they have no capacity for grading their loyalties, as well as for being moved by them; if they have no natural inclination to liberty and no natural respect for law; if they lack good humour and tolerate foul play; if they know not how to compromise and when; if they have not that distrust of extreme conclusions which is sometimes misdescribed as want of logic; if corruption does not repel them; and if their divisions are profound.'

Further, the habit of taking an intelligent interest in public affairs, being critical of government, independent thought, tolerance and the subordination of private interest

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to public good must become widespread. Respect for human personality must become part of one's nature; this implies that the *unsocial institution of untouchability* must disappear.

All this demands a great spiritual effort on the part of everyone to develop these necessary habits of mind. Universal education and education for citizenship are further clearly indicated. By education for citizenship we do not mean the teaching of a separate subject called 'Civics'; we mean rather 'civic habituation', the inculcation of the qualities of citizenship in a quiet and unobtrusive way through the ordinary subjects of the curriculum (particularly History) and through the *extra-curricular activities at school and college, 'silently, invisibly'*.

(iii) Whether these necessary institutions and habits of mind will be developed in India is more than one can say; it will much depend on the leadership that is, and will be, available in the country. The duties of leaders in a democracy are *onerous*: they have to rouse the citizens to a sense of their common interest and their public duty; to think out what are, in a given period, the best interests of the community and the means to achieve them; to present them in a simple, intelligible, and interesting form to the common man and get his general (and continuing) consent to them and reshape them in the light of altered circumstances. Legislators and ministers are the most prominent of such leaders, but all those who have any influence in the shaping of public opinion, such as the leading men of all parties, editors of newspapers, public speakers, authors, and teachers also share these responsibilities. *The sense of freedom and responsibility integral to democracy may normally be expected to*

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help the rise of true leaders in the Indian democracy of the future.

Democracy is the most difficult of all forms of government, because it demands most from the common man as well as from the leader. But the spiritual effort that is necessary to work it successfully is worth putting forth. For, properly worked, it encourages the intelligence, self-reliance, initiative, and the social sense of free men by placing the ultimate responsibility for government on the citizens themselves; it makes authority a trust and ensures equal consideration for all. The real question for India is not whether democracy will work successfully—for, in the twentieth century, placed as she is without the continuous tradition of any form of national government, she has no desirable alternative to which she can work up. What she must ask herself is rather, how, and how quickly, she can create those conditions under which democracy can start, and continue to work successfully.

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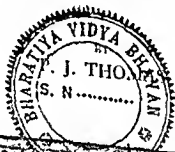
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TABLE I

Movement of Currency and Prices in India¹

In Crores of Rupees

MONTH			NOTES IN CIRCULATION	INDEX OF NOTES IN CIRCULATION AUGUST 1939 = 100	PRICE INDEX 19TH AUGUST 1939 = 100
1939					
August	...	...	170.29	100	100.3
September	...	...	186.06	109	112.9
October	...	...	199.82	117	114.9
1940					
January	...	...	226.35	133	133.2
April	...	...	227.78	134	125.0
July	...	...	230.71	135	112.1
October	...	...	220.20	129	112.1
1941					
January	...	...	230.20	135	114.8
April	...	...	249.28	146	116.4
July	...	...	256.93	151	140.9
October	...	...	273.69	160	142.1
1942					
January	...	...	328.39	193	145.0
April	...	...	401.60	236	145.9
July	...	...	449.53	264	161.2
October	..	.	508.77	294	175.0
1943					
January	...	...	587.60	345	195.6
April	...	...	661.55	389	227.9
July	...	..	737.00	430	239.3
August	...	...	753.53	442	238.0
September	...	...	759.75	446	236.3

¹ Monthly Statistical Summary, Reserve Bank of India. The index of prices is taken from the Economic Adviser's Index.

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No. 18

WAR-TIME PRICES

BY
P. J. THOMAS



HUMPHREY MILFORD
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Introductory

As everyone knows, the prices of most commodities have risen during the present war. At first the rise was gentle and halting; after the middle of 1942, it was rapid and continuous, till certain arresting factors came into operation towards the close of July 1943. The matter has naturally attracted great public attention. As conflicting explanations have been given in the press and elsewhere regarding the rise of prices, it may be advisable to begin by stating certain elementary principles.

The price of a commodity may rise by a decrease in its supply or an increase in its demand. Supply may decrease either because production has failed or because some people hoard goods. But when a general rise in the price of most goods takes place, it is usually associated with an increase in the supply of the exchange medium, i.e. money. The quantity theory of money, in its crude form, states that, other things being equal, the value of money will be in inverse proportion to its quantity, but 'other things' are seldom equal, and especially in war-time, owing to the play of psychological factors, the relation of money to prices is not so simple or certain. Under war-time conditions, prices may rise without an increase of money or a diminution of goods; on the other hand by the operation of speculators, the price rise may far exceed the bounds of currency expansion.

An abnormal rise of prices has been a normal feature of most wars and the result has been that while profiteers got rich quick, the common people had to suffer. The worst of such experiences came during and after World War I, and

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currency inflation was the principal cause. By this bitter experience, the nations of the West have learnt the correct method of financing war, and have stuck to it more or less closely in the present war. That method is this: when a Government at war purchases people's goods for war purposes, the goods must be paid for by money raised from the people themselves as tax or loan. If the Government takes the people's goods and leaves their money with them, a growing amount of money will compete for a dwindling quantity of goods, and this will surely push up prices. Therefore the Government must raise by taxation or borrowing the money which it uses for war purposes. There will thus be less money with the people and the scarcity of goods will be counterbalanced by the scarcity of money. When the Government makes further purchases, the money will go back to the people; this must also be drained off as far as possible by the same methods. The money borrowed must be from genuine savings, and not from expanded bank credit as was common in the last war. Goods as well as money must be kept under control, and in the case of necessities rationing may be necessary. It is by following such a policy that in the U.K. and U.S.A. prices in this war have been kept under severe check.

India's War Finance

The Government of India has nearly always pursued a strict financial policy even at some inconvenience, and in conformity with this tradition the war was for more than two years fully financed by taxation and borrowing (see below). Some control was also exercised on commodities as necessity arose. Consequently prices were successfully kept under check. From the beginning of 1942, however, the position became more complicated, as we shall see presently.

With the entry of the U.S.A. and Japan into the war, India became the base for operations in the East, and vast purchases of all kinds of goods—textiles, timber, construction steel, cement, shoe-leather, etc.—came to be made at fairly high prices on behalf of our own Government and the Governments of the United Kingdom and the U.S.A. Some of the articles thus purchased were in little demand previously. Some were specially made to meet the new requirements. Not only commodities but human labour has come into great demand. Large numbers of people were also employed in the military forces and in all kinds of auxiliary services. Fresh recruits to the Indian military forces alone number about two millions. The construction of roads, aerodromes, camps and fortifications gave employment to numerous unskilled labourers and artisans, who were hitherto inadequately employed. Under the agreement in force between the U.K. and India, between one-half and two-thirds of the war expenditure in India is now being met by the U.K. and the Allied Nations, and the payment is being made in sterling. As against sterling received in London, rupees are being paid out in India to those who deliver goods or render services. In this way our note circulation increased from Rs. 170 crores in August 1939 to about Rs. 763 crores on 1 October 1943. As may be seen from Table I (p. ii), a large part of this increase has happened in the last fifteen months. In addition to this, the deposits in the scheduled banks increased by more than Rs. 200 crores. All this has had serious consequences on the price level.

Sterling Credits. Before proceeding, it is necessary to explain that this large accumulation of sterling balances has greatly enhanced India's financial status. By its help, nearly all of India's external debt, amounting to about £300 millions (Rs. 400 crores), has been wiped off. When these

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securities held by residents in the U.K.' were liquidated, rupee counterparts were sold to investors in India. Thus the debts of the Government of India have been transferred to residents in this country, and India has ceased to be a debtor country. Nay more, she has become Britain's creditor for a large amount of money. The interest and sinking fund charges on the whole sterling debt used to be an embarrassing item for the Government of India, especially in the years of the Great Depression (1930-34), when their burden increased owing to the slump in the price of India's export staples and the fall in their demand. Thus the resources of India have been relieved to the extent of about Rs. 13 crores annually.

All this was not achieved without some sacrifice. War effort means the diversion to defence purposes of hundreds of things previously used for civilian consumption. Such a large diversion of the country's resources involves some real sacrifice to the people, especially in the case of total war. Thus even in 1918 Britain devoted half its national income to its war expenditure, and the diversion of resources must be much greater in the present war. In the case of India, the diversion has been comparatively smaller, but the sacrifice involved has not been small, thanks to the peculiar conditions of India's economy—large masses living on the margin of subsistence owing to the under-utilization of resources. It is true that of the total supply of food-grains, not even 1 per cent was bought for defence purposes, even in 1942-3; and although the cloth bought was a larger proportion of the total supply, considerable stocks remained for civilian requirements. But owing to various causes (to be described presently) the prices of necessities rose to high levels, and therefore the mass standard of living, already low, was pushed down to lower levels, thereby leading to severe distress in areas like Bengal and the Malabar coast. Parti-

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cipation in total war thus caused a serious strain on India's not very high war-potential.

How Currency Expansion has Operated

A certain amount of currency expansion is inevitable in war-time, especially in the case of a country like India, which owing to its limited extent of exchange had only a small stock of currency in comparison with its teeming population. The currency notes in circulation in India amounted to only Rs. 170 crores in August 1939 (Rs. 4½ per head). Vast purchases for Defence purposes and the employment of large numbers in the various Defence services called for an expansion of the currency, but this expansion came rather rapidly and soon outstripped the supply of goods. This latter point calls for further explanation.

In normal times an expansion of currency could be used to capital advantage, especially in a country like India, by turning our idle resources of men and material to the production of consumable goods. But in war, especially total war, the scope for private productive effort is severely limited, as most of the capital goods available are required for war production, and importation from outside is difficult owing to lack of shipping space. There is perhaps greater scope in agriculture for increasing production, but in a country of small and scattered holdings, this is not feasible—at any rate in the short run. In the case of certain industries, production has increased to some extent on Government account, partly by working double and treble shifts in existing factories, and partly by setting up new plant imported from abroad and installed at Government cost for the production, chiefly, of munitions. Some of the smaller industries (e.g. paper) have increased their production considerably. Cotton mills also rose to the occasion by putting their plant to

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the fullest possible use, though owing to political disturbances which began early in August 1942 the rate of production was slowed down for some weeks. Thus in the result, the stock of goods available for civilian consumption diminished rather than increased in most lines, while the money available for purchasing them increased rapidly. The result has been a widening gap between the amount of currency and the supply of goods, and in consequence prices rose rapidly. In other words, as there was no addition to the goods for purchase, the extra money was used for pushing up the prices of the existing stock of goods. Such a rise in prices is generally called inflationary.

A word of caution is necessary here about the use of the word 'inflation'. Although this term can be used in a generic sense as above, it is often associated in common parlance with budget deficits, mounting Government debts, and the free use of the printing press. This is what happened in Germany and certain other European countries during and after the last war. In India, on the other hand, in spite of the war strain, the annual budgets have been balanced by taxation and by borrowing from genuine savings. The external debt has been nearly wiped out. The internal debt has indeed increased in the meantime, but the addition to unproductive debt has been small; in fact, owing to the favourable terms on which fresh borrowing has been carried out, the total interest payments have decreased substantially—a fact which indicates the strength and stability of Government finance. The currency circulation has also increased, but not by the free use of the printing press. Every rupee issued has against it gold or sterling (or rupee) securities, according to the strict provisions of the Currency Act. In these circumstances, the currency expansion is far from being a 'deficit-induced fiat-money inflation' (as has lately

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been said). The lie direct to this is given by the fact that not only is there no disposition to fly from the rupee, but it is today a tower of strength, much sought after in the neighbouring countries.

Aggravating Factors

At first the increase of currency did not have a corresponding effect on prices, owing partly to the hoary practice of hoarding money; thus the gap between money and goods was kept fairly narrow. But subsequently, not only did currency circulation increase rapidly, but other forces also began to operate. The continuous rise of prices gives opportunities for speculators to make large profits by fanciful dealings in commodities. This is what happened when prices began to rise rapidly in the middle of 1942. By using idle money in banks and elsewhere—money which should have been absorbed in Government loans earlier—the speculators indulged in 'bull' operations, and thus pushed up the rising prices to higher levels. This encouraged not only business men but even agriculturists to hoard commodities in expectation of still higher prices. Imperfect attempts at price control also led to the same result. Thus not money but goods came to be hoarded, and this set in motion mischievous forces. As land dues and debt charges could be met by selling less of the produce, agriculturists could hold more produce than formerly. The effect of this is seen best in the case of food-grains. Although the fall in the total supply of food-grains was hardly 5 per cent, although the purchases on Defence account were below 1 per cent, the actual available supply in the market fell greatly; thus the gap between money and goods became wider and prices soared. On the side of money also, the wage increases and dearness allowances given to labourers, and the generous bonuses

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distributed to employees in many businesses, have worked as aggravating factors.

Prices and Cost of Living

The result of all this can be studied in the behaviour of prices. Changes in prices are generally measured by index numbers. Index numbers of wholesale prices are maintained at Calcutta, Bombay and elsewhere. The index numbers maintained by the Economic Adviser to the Government of India has August 1939 as the base; an extract from it is given in Table II (p. 32). From this we may see that the general index rose to 242 by June 1943, but the index of foodstuffs and cotton manufactures went up much higher (303 and 513 respectively). At Calcutta, the advance in the case of rice was highest (951). (Elsewhere, especially in Madras, rice prices rose much less.) The general index rose only to 242, because the prices of sugar, salt, tea, pig iron, cement, kerosene, etc., being controlled, have not risen very much. It may be stated here that the general price index in the Calcutta index numbers for the same month (June) was 319. The wholesale price index numbers being unweighted, it is not possible to obtain a clear indication from them of the actual inconvenience caused by the soaring of the price of necessities on which the poorer classes spend the bulk of their income.

What has interested the average man more intimately therefore is the rise in the cost of living. Indices of cost of living are now available for Bombay and certain other industrial centres. The Bombay index had risen by 132 points by June 1943. Similar rises have been recorded in Ahmedabad, Lahore, Madras and other centres for which indices are available (see Table III, p. iii). The rise in the Cawnpore index is the highest. The index for Calcutta should record

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an even higher rise, but unfortunately no proper index numbers are available.

Effects of Inflation

All sudden and drastic changes in prices are bound to have injurious effects on the community. A sudden rise in prices hits all persons with fixed incomes, because while prices go up, their incomes remain stationary. Wage-earners may obtain higher wages and dearness allowances, but these are a boon of doubtful value, because they rather aggravate the evil than cure it, by setting in motion the fatal spiral of rising prices and wages trying to catch up. Wages will never catch up (it is like running after a lost train); and the price rise will be accelerated.

The producers and dealers in goods, and business men generally, benefit in periods of rising prices, because they are able to sell their goods at prices much higher than their actual costs. In India, owing to the wide prevalence of small-scale production, the number of producers is large, and the advantage of high prices is reaped by a very great number of persons. This advantage, however, has been whittled down by the rise in the price of cattle, implements, seed, manure, etc., which they have to buy. But important items of expenditure like land revenue, water rates, money rents and debt charges remain at the old levels. As for wages, the rise has not kept pace with the price rise (owing to the inevitable time-lag), and in any case the great majority of cultivators do their own labour and are not materially affected by the rise of wages. The middlemen perhaps knocked off a good part of the enhanced value at the early stages of the price rise, but this has not been the case lately. Thus it is certain that the cultivating classes have obtained larger net incomes than before. It may be that their cost of living has also

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gone up owing to the large increase in the price of the consumption goods they buy, but such purchases, especially in the case of food-grain growers, who form the majority of the cultivators, are limited to cloth, salt and condiments, domestic utensils, etc. It is no wonder that cultivators are withholding sales of produce. The primary producer certainly deserves this extra income, because the price parity between his products and finished goods has nearly always been unfavourable to him, and especially during the years of the depression (1930-34) he lost heavily. But many have frittered away these gains by panicky purchases; it would be wise for all agriculturists to build up a reserve, as will be explained later on.

On the other hand, the numerous agricultural labourers, who receive money wages, have lost heavily by the rise in prices, because they spend chiefly on food-grains, and their incomes have not kept pace with the rise in grain prices. Hence the severe distress among this class, especially in Bengal.

The greatest benefit of inflation goes to the debtor classes. Those who had borrowed before the war could clear off their debts by paying back less value than they originally received; in the present conditions, an agricultural debtor has only to pay about six annas in the rupee to get clear of debt. This is just the reverse of what happened in 1930-34, when the burden of debt increased inordinately owing to the drastic fall in prices. All debtors should use this golden opportunity to discharge their debts; else their burdens will greatly increase after the war, and the costly experiences of the early thirties will have been in vain.

Inflation is an inequitable system of regressive taxation. It places the burdens of war on the weaker shoulders of the poorer classes and gives inordinate profits to the business

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community. Inflation thus aggravates inequalities of distribution. It makes the rich richer and the poor poorer. The higher the rise of prices, the greater is the burden of wage-earners and persons with fixed incomes. The standard of living of the masses must necessarily go down, and this affects the national economy adversely in many ways. Such aggravation of social inequalities is bound to affect social harmony, and it is no wonder that inflation gives rise to serious social discontent.

The higher the rise of prices, the more disastrous will be the evils of deflation, which follows inevitably after war.

Inflation of the type that happened in Germany after the last war can be disastrous. In 1922, the German mark depreciated to one-billionth part of its original gold value, and prices went up to astronomical figures, because with foreign credits depleted after a crushing defeat in war, and with colossal foreign dues to meet, that country made a frantic use of the printing press for balancing its budgets. Fortunately the position in India, as stated above, is altogether different. India's financial position is as sound as ever; confidence in the rupee remains high, and external balances are expanding at a rapid rate.

The Problem before India

What India was faced with in 1942 was (in the words of the Finance Member) 'a temporary situation in which an increase in the volume of purchasing power impinges for a time on a stationary or diminishing volume of consumable goods'. Such a situation need not be inflationary in the conditions of India, provided the extra purchasing power is not allowed *for the moment* to impinge on the volume of goods. On the other hand, in a country with such large resources, this could, if used *at the proper time*, be made into

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a source of power—a safe insurance for post-war prosperity.

People in India have always been anxious that their goods, especially primary products, should fetch high prices abroad so that more money might come into the country. In this way it was expected that the spending power of the Indian masses would increase, and with it their standard of living also—a development highly desirable from many points of view. Such an opportunity came when the U.K., along with the Allied Nations, began to purchase all kinds of goods from us and gave employment to a good number of people in this country. This has brought much money into the country. If this money becomes active purchasing power immediately, inflationary forces are bound to arise and most people will lose. Wisdom therefore lies in putting off spending for the present and using it later when purchasing power would be enhanced. After the war goods will become more plentiful and prices are also bound to go down; then the money now put away could be used to capital advantage whether for production or for consumption. This great truth is indeed well known to many of the well-to-do classes in India, and they have accordingly hoarded money or put it into Government loans, so that they may reap a rich harvest after the war. But this truth has not dawned upon many persons of the middle and lower classes, and therefore they have been using money for purchasing goods which were becoming scarce, and thus prices have been pushed up.

When the Government began to make vast purchases and pay for them in newly issued money, action was called for, both on the side of goods and on the side of money. On the side of money, immobilization by means of heavy taxation and extensive borrowing was necessary. On the side of goods, provision was needed for equitable distribution, at least of the necessities, by strict commodity control and systematic

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rationing, and for increasing the supply of goods. There was also need for active vigilance to keep speculative tendencies under check. Only by close co-operation between the Government and the public could such efforts be effectively carried out. The Government took action early, as will be shown presently, and such action was for a time successful in keeping commodities under control and prices under check; but subsequently, when more heroic efforts were called for from the country, various political and other circumstances prevented such efforts being made. Money which should have gone into Government loans, or into productive ventures to increase food supply, went into speculative dealings, and this made matters worse. Business men made hay while the sun shone; but (whether they knew it or not) it was at the cost of their poorer brethren that they made high profits. Not the Government, but the public—the middle and lower classes—have paid the penalty.

Anti-Inflationary Measures—Early Stage

At the very outbreak of war, the Government of India adopted a policy of sound war finance. In the budget for 1940-41, an Excess Profits Tax was levied on all incomes above Rs. 36,000, first at the rate of 50 per cent (raised to 66½ per cent in 1941). Together with the income-tax and super-tax (13½ per cent), the total assessment came to 80 per cent. At the same time, a surcharge of 25 per cent was levied on income-tax and super-tax and this was subsequently raised to 50 per cent on incomes above Rs. 15,000. A similar surcharge was levied on the corporation tax also.

An active borrowing programme was also initiated at the outset, and this was merged in a Defence Savings Movement. Various types of loans were raised, with a view to appealing to the different classes of investors, namely: (i) Three-year

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Interest-free Defence Bonds, (ii) Six-year Defence Bonds and (iii) Ten-year Defence Savings Certificates. By February 1943, the first three Defence loans brought in Rs. 108 crores. At the same time, in order to encourage small investors, the Government issued Ten-year Defence Savings Certificates in many denominations. A scheme of Post Office Savings Bank Accounts was introduced, under which blocked deposits were received, not repayable till one year after the war. These devices did not bring in much money, but they have been of great educative value and have given opportunities to small investors. The sale of counterparts of sterling debt also immobilized some part of the surplus money. As a result of these measures, the rise of prices was kept under check.

After the large purchases for war purposes began, the Government of India redoubled their efforts at absorbing the surplus money, both by taxation and by borrowing. The surcharges on income-tax, super-tax and corporation tax were increased, and new excise duties were levied on tobacco and vegetable ghee (*vanaspati*). The income from railways, posts and telegraphs and other commercial services, has been mounting up although the rates and charges have not been enhanced to any great extent.

The importance of savings was also recognized. The budget for 1942-3 made provision for certain optional savings schemes in the income-tax and Excess Profits Tax. Incomes between Rs. 1500 and Rs. 2000 were made liable to income-tax at 6 pias per rupee, but exemption from this tax is given if deposit is made into a separate account in the Post Office Savings Bank at the rate of Re. 1 for every Rs. 25 by which the income would exceed Rs. 750, i.e. about $1\frac{1}{2}$ times the amount of tax which would otherwise be charged. Such deposits cannot be withdrawn till one year after the

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war, but earn interest at the rate of $2\frac{1}{2}$ per cent. Further, in order to mitigate the incidence of enhanced surcharge on incomes between Rs. 2000 and Rs. 6000, which works out at more than 50 per cent, a provision was made to refund a portion of the tax equal to half per cent of the assessee's total income, after the end of the war. A provision was also made in the Excess Profits Tax, by which if an assessee deposits with the Government a sum in excess of the tax assessed, the Government will contribute an amount equal to half the sum so deposited, but no greater than one-tenth of the net E.P.T. The deposit earns interest at the rate of $2\frac{1}{2}$ per cent and is blocked for the duration of the war and a year after. This is a reserve to be used for assisting industrial rehabilitation after the war. A Savings Campaign was also initiated, although no proper organization was set up for carrying it through.

It was soon discovered that these measures were not adequate to narrow down the inflationary gap, which had been rapidly widening owing to the large currency expansion accompanied by a growing scarcity of goods. The optional saving schemes above mentioned did not immobilize much money, for they have only been slowly getting known. Currency circulation was growing at the rate of more than Re. 1 crore a day, but the loan money taken off the market was hardly a third of this. The excess money thus left in the market was used for speculative ventures. Mushroom companies were being floated for banking and other purposes in order to attract the idle money, and some of these went on competing for industrial plant which was urgently needed for existing factories. In some cases private concerns were converted into joint-stock companies at inflated prices. Most of these ventures did not make any addition to the productive sources of the country, but swelled the speculative

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boom which had been assuming an unhealthy character, aggravated the inflationary tendencies already at work. This was the emphasis in the speech presenting the Central Budget for 1943-4 on the favourable aspects of the price situation, but it was also taken advantage of by speculators.

Energetic Action

The Government of India was therefore forced to take drastic action to counteract inflation. In May 1943 measures were taken to discourage forward transactions, in cotton, bullion, cotton cloth and yarn, and to put them on a cash basis. In order to prevent the excess money from going into speculation, it was also found necessary to tighten the provisions of the E.P.T. Accordingly, on 17 May 1943 an Ordinance was promulgated by the Government of India speeding up the process of collection of the E.P.T. and drawing off a part of the surplus purchasing power from speculative avenues of short-term investment. The provision for optional deposit in the E.P.T. scheme was made compulsory, and steps were taken to discourage the distribution of too-generous bonuses and commissions. Another measure was the Capital Issues Control Order, intended to prevent the growth of mushroom companies in the present abnormal conditions. All these measures have had their effect, and there is every indication that a certain part of the idle money which hitherto did mischief has lately been flowing into Government loans.

Last, but not least, the Government took powers (in June 1943) under the Defence of India Rules to restrict and control advances against commodities (including bullion). This was a master-stroke, and even before the powers were used in this way commodity prices registered a fall and there was a landslide in the bullion market. A valuable lesson was

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thus brought home to speculators, and the result was a swing back from commodities to money as against the previous tendency to move from money to goods. The rate of currency expansion also slowed down greatly. Thus, as Lord Linlithgow put it, not only was the vicious upward trend checked, but several indices moved sharply downwards, with a beneficial effect on the whole price structure. All this, however, did not affect the price of the largest single group of necessities, i.e. food-grains, and therefore the improvement in the situation was not maintained.

Price Control and Rationing

Even in countries where immobilization of surplus money is easier, price control is essential in order that goods (especially necessities) which are in short supply may be available to the poorer classes. Only by rationing can the available supplies be equitably distributed. The importance of price control was realized at an early stage and the prices of several articles, such as sugar, matches and kerosene, have been successfully controlled. Cloth remained a tough problem for long, and partly owing to speculative forces the prices of certain varieties in common wear rose five times from the pre-war level. A scheme for standard cloth was devised at an early stage, but various difficulties prevented the production in adequate quantities of such cloth. Taking advantage of the more favourable atmosphere created by the anti-speculative drive, the Government of India with the co-operation of the textile industry launched a cloth control scheme in June 1943, and as a result prices came down by 30 to 40 per cent. The enforcement of the Cloth Control Order disclosed large hoards of cloth and in view of this it might be possible to scale down ceiling prices from the levels fixed earlier. This and the more abundant sales of standard

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The Committee reported in September. An important conclusion reached was that while the absolute physical volume of food-grain supply had not contracted to any appreciable extent, the available supply had decreased considerably. Accordingly proposals were made for securing an increase under both. The more important of the Committee's recommendations in this regard relate to the acceleration of the Grow-More-Food campaign by the greater use of machinery and artificial fertilizers, and the importation, annually, of one million tons of food-grains, part of which would go towards the building up of a Central Food-grains Reserve. Drastic enforcement of the Food-grains Control Order and of anti-hoarding measures was urged to bring more of the supplies to the market. On the distribution side, rationing in urban areas was urged. A majority also favoured statutory price control for the major food-grains in the provinces, and a tentative formula for arriving at the surplus and deficits of the various areas was also enunciated.

At a conference convened in Delhi in the middle of October, the Food Member (Sir J. P. Srivastava) announced three lines of policy, namely: (i) banning of all exports of food, (ii) taking steps for the import of food-grains, and (iii) the appointment of a Central Advisory Committee. At the conclusion of the conference, the Central Government announced its decision in favour of (i) the basic plan of procurement, (ii) statutory price control of major food-grains, and (iii) urban rationing.

Anti-hoarding Ordinance. The unfairness of curbing food-

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grain prices while not controlling at the same time the price of important articles consumed by agriculturists was strongly felt by many, and, partly owing to this, the Government promulgated on 16 October an Ordinance against hoarding and profiteering in all commodities, except those already under control (food-grains, cloth, etc.). The Government has taken powers to fix the maximum stock which traders and producers at any particular time can hold, the maximum amount which can be transferred in any one transaction and the maximum price.

As food-grains are exempted from the scope of this new Ordinance, it is possible that hoarding may be concentrated on this group of articles, and thereby the mobilization of the food-grains supply in the country may become even more difficult. It therefore seems desirable to reinforce the Food-grains Control Order by requiring the big producers (as well as traders) to take out licences, and by fixing suitable maximum holdings at any time for each individual. This seems to be the surest and speediest means of bridging the gap between the absolute supply of grains in the country and the available supply—the problem which the Committee sought to tackle. In the present circumstances, such a step may be necessary for making statutory price control effective.

Stopping Currency Inflation at the Source?

Further action on the side of money is also called for. As monetary expansion in India is closely related to the accumulation of sterling in London in payment for purchases by the U.K. and the Allied Nations, it is pointed out by some that currency expansion should be stopped at the source by obviating the need for accumulating sterling. This was what India did when she paid off her external sterling debt, but that debt has nearly been wiped out. The

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large sales of sterling concerns in India to rupee interests, which have lately been going on, especially in southern India, have also had the same result. The scope for the application of such a remedy is limited, and other remedies have therefore to be sought. One suggestion made in this connexion is that the U.K. should directly raise rupee loans in India and thus avoid the necessity for continuing the currency expansion. The Government of India is prepared to take all the loan money available. Is it likely that rupee loans raised by Britain in India will be more popular? Not in the present circumstances. There is no ground for believing that Indian investors would prefer rupee loans raised by Britain to rupee loans raised by the Indian Government, since investors in India are likely to have more confidence in their own than in any external Government, be it even His Majesty's Government. This may be all the more true now, seeing that the people of India are going to have greater control over their Government after the war. War effort takes precedence over everything else, and must go on without interruption. Is it then wise to make it depend on the doubtful results of such loan experiments?

Even assuming that some suitable device for obviating sterling accumulation can be found, the major issue before us now is to immobilize the surplus purchasing power which has already gone into people's hands, and therefore we have to devise means whereby such purchasing power can be sterilized for the duration of the war.

Taxation and its Limits

The money creating the trouble has to be drained off by taxation and borrowing. In spite of recent enhancements in tax rates, the burden of direct tax in India still remains comparatively low. In the U.K., Australia and Canada,

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Government. Therefore active co-operation on the part of the Provincial and State Governments is essential if the object is to be attained. Unfortunately the Provincial Governments, until lately, had not been adjusting their financial policy to the requirements of immobilization. The position in regard to the States has proved even more difficult, owing to various obstacles of a constitutional character.

The Importance of Borrowing

The circumstances noted above make it necessary to depend more on borrowing than on taxation. There are difficulties in taxing lower incomes, but it is the scramble for goods of these small-income earners that aggravates the price situation, and therefore if these excess incomes are not immobilized, inflationary forces cannot be effectively checked. This is done best by borrowing. While it may be necessary to lop off by taxation the large surplus incomes of the richer classes, it is enough to put out of mischief, by borrowing, the small incomes of the poorer classes. Nor will this inconvenience the Government, because there is no special reason why that part of the currency expansion due to purchases by the U.K. and Allied Nations—and this is a large part—should be immobilized by taxation, except that borrowing will add to our internal debt. But the great bulk of our national debt is of the productive variety and is backed by excellent assets. India's unproductive debt is still small in spite of her participating in two world wars in the space of a generation. There is an additional reason why the Government should borrow from the middle and lower classes. So far the creditors of the Government have been mainly among certain urban business communities. Would it not be desirable in every way to spread that privilege more widely among other economic groups also, so that

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while money is bound to appreciate, goods are sure to go down. Now that victory is in sight, this has become certain. Holding goods is no longer secure; all speculation is becoming increasingly risky. Nor is gold or silver safe investment, because their value is also bound to go down.

Wisdom of Money Savings

Wisdom therefore lies in the present circumstances in investing all your savings in *money*. The question is as to where to deposit the money savings. Savings could be put into banks, but the ease of withdrawal is a source of weakness in the case of most human beings. Money can be hoarded, following the traditional practice in India; but, apart from our having to forgo interest on our savings, hoards may be opened at any time, by ourselves if not by the thief, and then the hoarded money will become active purchasing power, and act on prices. Therefore it is best to deposit our savings into such institutions as will keep it safely, and are sure to return it to us with reasonable interest after the war. These purposes are properly fulfilled only by the Defence loans in some form. We may buy Defence Bonds or Defence Savings Certificates or make blocked deposits in the Defence Savings Bank. Wherever Co-operative Societies receive deposits for the duration of the war, they also may be resorted to. Subscriptions for insurance policies are also desirable.

For those who want to obtain full value for their money after the war and who want to curb the rising prices, there is therefore no alternative but to place their savings at the disposal of the state in one form or another. Those who refuse to buy War Bonds in order to defeat the Government's object are on the wrong track, because in the peculiar circumstances of India borrowing is now needed chiefly for checking inflation, and if this is not done the people and not

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the Government will be hit hardest. Therefore it is the people's interest to force the money on the Government, if borrowing is not actively carried out.

Frugality and savings may clearly be in our best interests; but human nature being what it is, some persuasion is needed to call forth a special effort. Even in America it has been found necessary to give positive inducements for saving by methods like the 'reversed instalment plan', under which people can pay now instalments for the purchase of definite commodities to be delivered after the war. It may be possible for our Co-operative Movement to make a similar provision for the purchase of cattle, implements, etc., by members after the war. There have been working in India various indigenous forms of co-operation by which the small savings of the rural people were conserved. Such are the Nidhis and Chit funds of southern India. Members contribute to such institutions with a view to accumulating sums with which they may build houses or pay dowries. Such systems attuned to the habits of the people will be efficacious in the encouragement and collection of savings and may still be utilized, with variations suited to the conditions of each province.

If voluntary savings will not mop up enough of the surplus purchasing power, it may be necessary for the Government, in the public interest, to resort to compulsory methods. Schemes of compulsory borrowings or deferred pay, like the one of Lord Keynes, may be feasible among those who work under Government or other employers, but such persons are comparatively few in India, and at the present level of prices they may not have much to save. The bulk of small savings in India must come from the numerous agricultural population. Many agriculturists do not realize their true interests and therefore it may be advisable to devise *some scheme of compulsory savings for them.*

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The alternative would be taxation of agricultural incomes with a low untaxed minimum. May we hope that our people will forestall such action by resorting to voluntary saving, which will cause least annoyance and create most valuable assets for post-war use?

Produce More Goods

Both as a patriotic duty and as a sure means of making money, increased production of consumer goods can be warmly recommended today. To grow more foodstuffs is a life-and-death necessity; other goods are also in great demand. Production involving large capital equipment may not be feasible today, but not so are foodstuffs and the many goods which could be made by handicraft—cloth, paper, pottery, simple tools, etc. The Centre and the provinces are pushing on a Grow-More-Food campaign, and are keen on distributing seeds and procuring manure. Agriculturists must make full use of these opportunities to help themselves and the country.

Ensure Post-War Prosperity

It is perhaps clear from the foregoing that in the interests both of the nation and of the individual, a concentrated effort for inducing frugality and saving is called for. To the individual it is the unfailing method whereby post-war prosperity could be ensured. There will be a great difference in status after the war between a farmer or other earner who spends his income now and another who lays aside a nest-egg for use after the war. To the nation also, this provides a splendid opportunity. India's economic backwardness in the past was due to (i) paucity of fluid capital and (ii) meagreness of purchasing capacity. If a good part of the new money issued during the war is securely saved, it will be available after the war for the expansion of industrial enter-

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prise. Hitherto the ownership of fluid capital in India has been concentrated in certain small business communities; with the accumulation of small savings, such ownership will spread to other communities also and this would be a healthy development in every way. The meagreness of purchasing capacity which has been a serious impediment to industrial advancement could also thus be tackled. If properly planned, this can set in motion an upward spiral of economic activity with increasing production and growing spending-power.

Today, with a note circulation of about Rs. 765 crores, India is experiencing inflationary tendencies, but after the war when the labour force and the capital equipment now employed in war effort are liberated and re-employed on the exploitation of our large natural resources, production and national income will increase and with it exchange transactions will also expand. Then a currency circulation of even Rs. 1000 crores (Rs. 25 per head, as against Rs. 147 in Great Britain) may not be inflationary. Saving the extra money now is the sovereign way for leading to such a desirable development. Thus what has so far been a source of weakness can be made an asset of great value. It can give a powerful initial impulse to capital formation, and enhance India's prosperity by more fully utilizing her large resources for the lasting good of her teeming millions. India can thus become a United States of the East, with a prosperous countryside, advancing industrialization, growing purchasing capacity and rapidly rising standards of living.

If we want such a consummation, now is the opportunity.

There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune; . . .
And we must take the current when it serves,
Or lose our ventures.

So also in the affairs of nations.

Table III

Working Class Cost of Living Index (1925=100)

1901 August 1902 to 1943

Year	January	April	July	October	December
1902					
August	100	100	100	100	100
October	101	101	101	101	101
1910					
January	106	111	111	111	111
April	105	110	110	110	110
July	108	108	108	108	108
October	108	108	112	112	112
1911					
January	111	108	110	110	111
April	115	111	111	111	111
July	120	121	120	120	120
October	119	120	121	121	121
1912					
January	120	120	120	120	120
April	121	120	120	120	120
July	120	120	120	120	120
October	120	120	120	120	120
1913					
January	123	127	123	123	123
April	124	126	123	123	123
May	126	127	123	123	123
June	124	127	123	123	123
July	125	127	123	123	123

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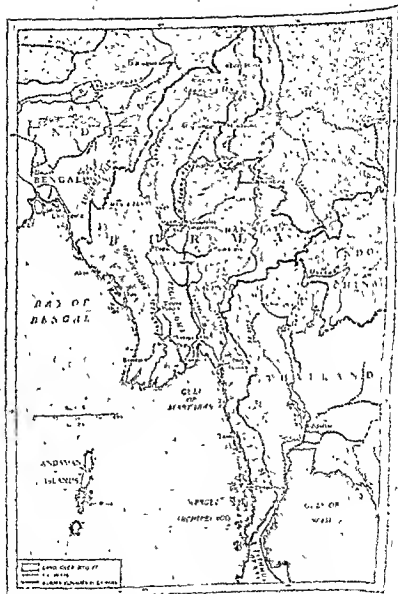
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No. 17

BURMA

BY
MA MYA SEIN



HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS

BURMA is much in the news today, and this account of its people, history, resources and politics will be eagerly read. The country is mountainous and heavily forested, and the 17 million inhabitants cluster on the fertile banks of the great rivers and on the coastal plains. Except along the great southward-flowing rivers communications are difficult. As in India, three-quarters of the people are agriculturists, and more than half the cultivated area is given over to the growing of rice, of which about three million tons are normally exported in each year. The relations between India and Burma are given perspective, and there appear to be sound economic reasons to anticipate more 'good-neighbourliness' now that Indian immigration is restricted. The pamphlet concludes with an account of recent Burmese politics, and emphasizes the need for full nationalist support in the work of reconstruction that will be necessary to restore prosperity to a country greatly devastated by war.

Ma Mya Sein, M.A., B.Litt. (Oxon), was Principal of the Buddhist Girls School in Rangoon, Chairman of the Rangoon Education Board and Director of Women's Civil Defence, Rangoon, before the invasion of the Japanese. She travelled to Chungking by the Burma-Yunnan Highway and is now in India. Ma Mya Sein is the author of *Administration of Burma* (1938) and was the only woman delegate to the Burma Round Table Conference.

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BURMA . . .

The Country

ANY consideration of Burma and its future must take into account the important part played by its geographical isolation in shaping its individuality. Situated between the two vast countries of China and India, it has been profoundly influenced by the life and culture of its great neighbours, but immense and almost impenetrable mountain barriers have enabled it to retain distinctive characteristics and to develop a strong national consciousness. Burma for most of its history could only be approached from the sea, but it lies away from the main trade routes and most of the coastline is rugged and unfriendly. Tales of its enormous wealth were told by early travellers, but Burma was less often visited than other parts of the East.

With an area of 260,000 square miles, Burma occupies the westernmost and most fertile part of the Indo-Chinese peninsula. On the east lie the Chinese province of Yunnan, French Indo-China and Siam or Thailand. To the north is the rugged region where India, Tibet and China meet. The Bay of Bengal and high mountains divide it from India. The country is split into natural divisions by a series of rivers and mountain ranges which generally run from north to south. In the centre, the valleys of the Irrawaddy, Sittang and Salween rivers open out into a flat delta country. On both sides of the central plain there are high hills which end in coastal strips.

The Chin and Kachin Hills cover the north and north-eastern areas. Cut by densely wooded valleys, their rugged slopes render communications very difficult. Many mountain torrents joining at the foot of the hills form the two main streams of the Irrawaddy river, on the banks of which most of the ancient capitals were established. Around Mandalay, Amarapura, Ava and Pagan, pagodas of all shapes, sizes and age crown nearly every hill-top, and the curved-

BURMA

tiered roofs of monasteries can be seen in clumps of shady tamarinds and palms. In the dry zone in Central Burma towns are few and villages are far between. Cactus and thorn bushes are the main vegetation. Arable land is cultivated with cotton, beans, sesamum and chillies, except where a good water-supply makes possible the growing of paddy. South of Thayetmyo, however, the vegetation becomes more luxuriant, and the Irrawaddy Delta is a vast and monotonous plain of paddy lands intersected by a network of tidal creeks.

The Pegu Yoma, a low ridge of hills ending in the spur on which the famous Shwe Dagon pagoda at Rangoon is built, divides the valleys of the Irrawaddy and the Sittang. The other large river of Burma, the Salween, is one of the most picturesque in the world. It rises in Tibet, cuts gorges through the mountains of Yunnan, drains the Shan Plateau and enters the Gulf of Martaban at Moulmein, whose harbour is enlarged by the entrance of two more rivers at the same mouth.

The great Shan Plateau, averaging 4,000 ft. above sea level, stretches across the Shan States and the Karenni States. Wooded hills run from north to south, and in the alternating valleys the labour of man is seen in the ridges of paddy fields and terrace cultivation.

Arakan, with its seaport town of Akyab, is a narrow strip of country adjoining India. It is shut off from the rest of Burma by the Arakan Yoma which stretches seaward and ends in dangerous reefs and detached rocks. It contains rich alluvial plains and is one of the most fertile parts of Burma. The coast-line is broken into many low islands by a network of estuaries and creeks.

Tenasserim lies between the Bay of Bengal and the high mountain ranges which divide Burma from Siam. The country is hilly and scoured with the deep channels of many streams. Off the coast are the picturesque islands of the Mergui Archipelago.

Burma has a typical monsoon climate; the three seasons—the dry-cold, the hot and the rainy—run into one another with very little margin, though the coming of the rains in

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mid-May and their going in mid-October are usually marked by violent storms. The annual rainfall in the coastal regions of Arakan and Tenasserim ranges between 200 and 250 inches; in Rangoon and the Delta it averages 100 inches; and in the dry zone in Central Burma it is never more than 30 inches. The temperature varies almost as much as the rainfall; the dry zone is the hottest in summer and coldest in winter (varying between 100° and 60°), while on the coast and in the Delta the temperature varies only between 90° and 70° in the hot and cold seasons. The Shan Plateau, the Chin Hills and the Kachin Hills have a temperate climate; snow seldom falls even on the highest hills, but in the extreme north of the Kachin country there are hills clad with snow for the greater part of the year.

The People

The Burmese. The Burmese comprise roughly two-thirds of the population of Burma, which is now estimated to be over 16,800,000; of the remaining inhabitants about seventy per cent are said to be able to speak the Burmese language with facility. We know very little about the aborigines except that they were probably Indonesians, who were completely displaced by swarms of immigrants pouring into Burma from north-western China and Tibet along the course of the great rivers. Generally speaking we can say that between 500 B.C. and A.D. 500 there was a great deal of tribal movement and tribal warfare, but by the ninth century the position of the immigrants was more or less consolidated—the Mons in the deltas of the Irrawaddy, the Sittang and Salween, and the Burmese in what is known now as Upper Burma. About the thirteenth century, the Tai or Shans came into the plains of Burma and pushed themselves in wherever they could. In the sixteenth century the Mons and the Burmese may be said to have merged, but they continued to fight each other till Alaungpaya finally crushed the Mons in A.D. 1756 and founded the town of Rangoon (*Yan-kon*) to mark the end of strife. From then on, the absorption of the Mons by the Burmese has been very rapid. In fact, the assimilation of

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social problems. The staple diet is rice, to which is added a dish of meat, fish, vegetables and various savoury leaves. The Burman is well nourished and, although there are very few really rich people, there is little of the grinding poverty that is seen in India and China.

Life in the towns is quite different. The houses are similar to those in India, and having no caste system, the Burmese have mingled freely with the immigrants.

Burmese women occupy a place in society not greatly different from that held by their sisters in the West. They have never adopted the veil like Muslim women in India nor bound their feet like Chinese women. They have always enjoyed equal rights by law and custom. Most of the petty trade is in their hands, but they are content to work in the home and for the home; a woman very seldom leaves the home of her parents or her husband to follow an independent career. There is reasonable freedom of choice in marriage, which is more of a civil contract than a religious union; the woman does not change her name nor does she wear a wedding ring. Divorce is easy but is not common, and there is no objection to the remarriage of divorcees and widows.

The Shans. Next to the Burmese, the Shans are the most numerous people in Burma. Driven out of south-western China by Kublai Khan in the thirteenth century, some of the Shans went westwards and overran Burma for two centuries, while the others went south, founded Ayuthia and became the progenitors of the modern Siamese. The Shans resemble the Burmese, but as a rule they are fairer and more slender. They are muscular and well-formed and average at least an inch taller than the Burmese. As a race they are exceedingly ready to adopt the habits and ways of the peoples with whom they come into contact. In the plains there is not much to distinguish them from the Burmese, but they cling to their liking for small communities and are averse to subordination to one central power. At present the Shans are less acquainted with modern civilization than the Burmese of the plains, and their standards of literacy and education are lower.

The Karens. The Karens are the third most numerous

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people in Burma. Many speculations about their origin have been made, but the most probable theory is that they were tribes in China who were pushed south by the Shans and afterwards driven into the hills by the Mons and Burmese. Antagonized by the Burmese rulers, many Karens became converts to Christianity when the British came, though the majority are still Buddhists. Of heavier and squarer build than the Burman, the modern Karen in the plains who adopts Burmese dress and language can hardly be distinguished. In Karenni, legally the only native state in Burma, the Red Karens are of an entirely different physical type; they are small and wizened but very wiry, and have been wild and truculent towards their neighbours.

The Chins and Kachins. The Chins are said to be an offshoot from the original Tibeto-Burman immigrants who left the main body in the extreme north of Burma. They marched down the Chindwin, and, climbing the hills west of the river, spread westwards into the Lushai country and southward over the Arakan Yoma. Living as they do in small village communities among the hills, they are split up into many tribes speaking different dialects. They are more warlike and more backward than the people of the plains, but adapt themselves to modern conditions of life and do good work in the police and the military forces. The Kachins inhabit the great tract of country to the north, north-east and north-west of Burma, among the hills at the headwaters of the Irrawaddy and Chindwin.

On the whole, one can say that the races of Burma—with the exception of the few Selungs or sea-gypsies, living on the islands of the Mergui Archipelago—are all from the same original stock. They came from the same countryside and are more or less distantly related and connected; the animosities between the three sub-families—the Mon-Khmers, the Tibeto-Burmans and the Shans—have been bitter at times, but the assimilation and transformation of these races into a united nation has been steadily progressing for centuries.

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History

The early history of Burma is made up of a mass of legends from which can be traced the movements of the various immigrant tribes and their petty quarrels and strifes. Wave after wave of Mongolian people infiltrated into Burma and scattered over the country, living in isolated units with little or no political organization. In spite of racial ties, Burmese traditions refer to India rather than to China, for it was the great Hindu expansion overseas that brought writing, customary law and other elements of civilization to Burma. The ruins at Prome, Pegu and along the Arakan and Tenasserim coasts indicate a period when Indian culture was dominant, though never so deeply entrenched in Burma as among the Chams and Khmers of Cambodia and Siam.

Pagan dynasty. The kingdom of Prome lasted about five centuries before it was destroyed by obscure civil wars, when its people moved to the north, and Thamokdarit, the Chief of the Pyu, built his capital at Pagan. Its authentic history begins with King Anawrahta, A.D. 1044-77, who brought Burma under the sway of one king. He conquered the Mons of Thaton and carried away the king and people with their treasure, including the Buddhist scriptures and relics; he razed the walls of Prome and conquered the nearer Shans; he gave help to Pegu when it was raided by Chiengmai, and when the Buddhists in Ceylon suffered under Hindu persecution he sent them monks and scriptures. In his reign, Hinayana Buddhism superseded the Mahayana, Pali became the language of the sacred books, and the people adopted the Mon alphabet. Anawrahta reorganized his kingdom, and tradition credits him with the foundation of the irrigation system and many other beneficial institutions. For more than two-and-a-half centuries Pagan flourished as the centre of Buddhist culture and civilization. It is said of that 'golden age of Burma' that even a widow could afford to build a pagoda, and certainly the millions that still stand today in the barren wilderness of the dry zone give one the impression that it was not only Anawrahta and his successors who took to pagoda-building but that everyone contributed to the architectural magnificence of Pagan.

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Shan domination. In A.D. 1253 the Tartars who had swept across Asia annexed Yunnan and demanded tribute from Pagan, which was then beginning to totter under the pressure of the Shans. In 1287 Pagan was sacked and the dynasty collapsed. The Shans overran the entire country, but they had always lacked cohesion and Burma became split into the principalities of Ava, Toungoo, Pegu, Martaban, etc., which were soon fighting one another. The first European traveller who came to Burma, Nicolo di Conti, a Venetian merchant, found the Mon kingdom of Pegu fairly prosperous and settled in 1435, but Upper Burma remained disorganized. The kingdom of Ava could not assert itself; year after year rebellions took place, till in 1527 the Shans finally took Ava. Burmese refugees flocked to Toungoo, an independent state, which now became the centre of Burmese nationalism. It was the king of Toungoo who once again united Burma and enlarged its dominion to its greatest extent.

Toungoo dynasty (1531-1752). Tabinshweti, king of Toungoo, seized Pegu, Prome and Martaban, and invaded Arakan and Siam, but it was left to his successor, Bayinnaung (1550-81), to extend the boundaries of Burma to Manipur and Yunnan on the north and to Chiengmai and Ayuthia to the east. The suzerainty of Burma over the Shan States dates from this time. Bayinnaung twice reduced Ayuthia by siege and destroyed Chiengmai; but his campaigns exhausted Burma, and the strain of the intermittent Burmo-Siamese wars in the next two centuries led to the disruption of the country. By the eighteenth century Lower Burma was depopulated, and the rich Delta gradually became overgrown with jungle and tall grass. When Pegu ceased to be a seaport, the Burmese court, not realizing that the future of Burma lay on the coast, moved back to Ava in 1635. As soon as the Mons recovered their strength, they rebelled and set up a king at Pegu. They made constant raids on Upper Burma, and in 1752 forced their way into Ava and burnt it to the ground.

Alaungpaya dynasty (1752-1885). The Ava dynasty collapsed, but when Alaungpaya of Moksobonmyo (Shwebo) defied the Mons and won his first battle, the Burmese

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flocked to his standard. The Mons were cleared out of Upper Burma and finally crushed in 1756. Dagon was taken, enlarged and renamed Rangoon (*Yan-kon* or end of strife) and replaced Syriam as the port of Burma. Once again the whole of Burma was united under one king. His vigorous and energetic successors began to widen their kingdom, and once again the kings of Burma frittered away their resources in long campaigns and useless sieges. They sent expeditions into Siam, destroyed Ayuthia and ravaged the country, invaded Manipur and Assam and repelled the Chinese invasions. The Burmese began to think that they were equal to anything. But the country was thinly populated, and the drain on Upper as well as Lower Burma was such that the framework of administration cracked and bands of robbers infested the whole kingdom. Thus when their expansion towards India brought them into hostile contact with the English, the Burmese sustained their first defeat. In 1826, Arakan and Tenasserim were ceded to the British, but relations worsened and the second Burmese war broke out in 1852. The whole of Lower Burma then fell into the hands of the British. After the second Burmese war the British became alarmed over French intrigues, and when a Franco-Burmese treaty was signed in 1885, the British decided to end the independence of Upper Burma. The dispute of the Bombay-Burmah Trading Corporation with the Burmese Government was the immediate cause for the outbreak of the third Burmese war. Mandalay was taken, King Thibaw was deported, and the whole of Burma became part of British India in 1886.

Administration

The Burmese king was an autocrat. Between him and the people there were no intermediate feudal lords, no assemblies—no one to check his power or ambitions or to give stability to the administration. All officials were appointed by the king and held office during his pleasure. There was no definite law of succession; as the king had more than one wife, it was usually the son of a strong-minded queen or a

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capable prince with the biggest following who seized the throne and appointed a new set of officials. Until the reign of King Mindon, no salaries were given to the officials, who had to get as much as they could out of the people. This naturally led to so much oppression and cruelty that the Burmese proverb says, 'Fire, war, storms, robbers and rulers are the five great evils'. Away from the centre, however, the administration of local chiefs was good and reasonable and on the whole the peasantry were more comfortable and prosperous in Burma than in many other countries. The people elected their own headman (*thugyi*) who collected the revenue or tribute payable by the village; in distributing the burden among the people, he was assisted by a group of villagers called *thamadi*. Cultivators were generally called upon to give one-tenth of their produce, the rice collected being kept in provincial granaries. In time of war, the village had to supply its quota of men, fully equipped and provided with the necessities for a campaign. Those who stayed at home compensated those who had to go to the front. In the same way, those who were in the service of the king had lands given to them, and their relatives, the *nauk-htauk*, worked on the lands and supported them. The central government seldom interfered in local affairs, so there grew up a system of strong headmen whose authority prevailed over more than one village and whose office tended to become hereditary.

This strong hereditary headmanship was the stable feature in the administration of Burma, but unfortunately it was done away with by the early British officials who came from India. The village system of 'one village, one headman' had worked well in India and was a powerful instrument of pacification, so the larger units were broken up into such small villages that the headman's remuneration was not sufficient to attract any villager of good standing. As the functions of government increased, the headman has gradually become the maid-of-all-work and lost the respect of the villagers. In towns, the ward-headmen fared badly too; they became mere tax-collectors with no power or influence. The situation became worse when, under the Rural Self-

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Government Act, another set of elected representatives of the people were created by the establishment of the Circle Boards and District Councils. It would have been much more logical to make the headmen the electorate and to give powers of taxation and expenditure to a committee of headmen of a district.

Burma is now administered by a highly organized permanent civil service. The village tracts are grouped into a township under a *myook* who is in some respects like the old hereditary headman. He supervises the land and village system, helps to suppress crime, collects revenue, settles disputes, acts as Government banker, registers deeds and issues stamps for sale and generally performs the duties assigned to him by higher authorities. In fact, he is the backbone of the administration and corresponds to the *myothugyi* (circle headman) of olden days. Two or three townships form a sub-division under a Sub-divisional Officer. The Deputy Commissioner, who is in charge of two or three sub-divisions, is responsible for all the functions of government in the district. To help him he has the District Superintendent of Police, the Superintendent of Land Records, the Superintendent of Excise, the Divisional Forest Officer and other officials of the different services. Three to eight districts make a division, which is under a Commissioner. The connecting link between the district officials and the Governor, who is at the head of the Government, is the Secretariat consisting of heads of departments and Secretaries of Government.

When Burma was first annexed, it became part of British India for the sake of administrative expediency; after much agitation, Burma was separated in 1937 and the Burmese request for the appointment of a Governor with parliamentary experience was granted. The Governor appoints the Ministers, and they have a constitutional right to determine policy except in the 'reserved' departments of Defence, External Affairs, Excluded Areas and monetary policy, for which the Governor can appoint three Counsellors. In addition the Governor has special responsibilities in the exercise of which he is guided by the Instrument of

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Instructions given to each new Governor by the Secretary of State. Thus the constitutional development of Burma ultimately rests with the British Parliament, which can retard or hasten it.

The Constitution inaugurated in 1937 however gave Burma a degree of freedom greater than was enjoyed by any other country of the British Commonwealth of Nations, short of those countries having Dominion Status. It was for example in advance of India, where the delay in implementing the scheme of Federation still leaves the country with a non-responsible Central Government. Many of the powers held in India by the Central Government were held in Burma by the responsible National Ministry. These powers were real and not illusory. For instance, the Burmese Ministry, acting within its constitutional rights, was not prepared, in the interests of the national exchequer, to forgo customs dues on goods going through Burma to China. It was the British taxpayer who finally met the bill in order to placate opinion in America.

The legislature is bicameral, consisting of a Senate with 36 and a House of Representatives with 132 members. The Senate continues for a maximum of seven years and the House of Representatives for five years. Communal representation was introduced into Burma when it was part of India, and forty seats are reserved for the Karens, Indians, Anglo-Burmans, Europeans, Commerce and Industry, Rangoon University, Indian Labour and Non-Indian Labour. Of the 36 members of the Senate, 18 are chosen by the Governor at his discretion and the remaining 18 are chosen by the House of Representatives in accordance with the system of proportional representation, each group voting separately. The qualifications for the franchise are higher than in India, but a larger percentage of the population enjoy the vote in Burma—23 per cent in Burma as against 14 per cent in India. The percentage of literacy among women also being higher in Burma than in India, nearly all the women in towns and many in the villages are able to vote.

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Resources and Trade

Agriculture. Rice is the staple food of the Burmese and it has been cultivated in Burma for centuries, though its export was forbidden under the Burmese kings. Now rice and rice-products are by far the most important export and comprise 40 per cent of the total.

The great mass of the population, nearly 71 per cent of those working for their livelihood, are engaged in agriculture and forestry. The area occupied for cultivation in 1940 was about 21½ million acres, of which about 18 million acres were cropped in that year, rice cultivation covering more than 12 million acres. Rotation of crops is not unknown, and double-cropping and mixed cropping are quite common in Upper Burma. The Upper Burma cultivator has a fairly constant economy, as he grows a variety of crops—millet, cotton, sesamum, maize, peanuts and beans. More often than not he owns his fields and has cottage industries to supplement his income, so his prosperity is not so dependent on the export price of paddy. In Lower Burma, however, where the soil is rich and rainfall abundant and constant, rice is grown almost universally.

During the years 1930-35, a wave of foreclosures left non-agriculturist bankers and landlords in control of about half the paddy lands of Lower Burma. In 1939, 49 per cent of the total area of 19½ million acres was worked by tenant farmers, in Lower Burma the figure being 59 per cent, and in Upper Burma 32 per cent. In the thirteen principal rice-growing districts of Lower Burma about half the land in the hands of non-agriculturists was in the possession of Chettiyar firms, and the absentee landlords were mostly non-Burmese. A Land and Agriculture Committee to consider the various problems of tenancy alienation and indebtedness was appointed and a Tenancy Act and Land Alienation Act became law in 1939. A Land Purchase Act giving power to the Government to acquire land for distribution to agriculturists was passed in 1941, and further measures were in process of being initiated to provide land mortgage facilities.

The exportable surplus of rice is about 3 to 3½ million tons, of which about half is taken by India, Burma's best customer. Great Britain, Ceylon and Malaya continued to buy Burma rice, and West Africa and the West Indies increased their purchases, but from 1930 to 1938 the six leading food-importing countries of Europe reduced their net imports of rice and wheat by more than half and this decrease fell heavily upon Burma as the nearest source of rice from Asia. The Netherlands Indies, which once exchanged their sugar for Burma rice, also began to grow their own paddy. Burma will have to find new markets for her surplus rice or grow some other marketable crop.

With better means of communication, less rice was shipped in the husk, so rice mills (which prepare the rice for export) constitute the chief industrial enterprise of Burma. The smaller mills are owned by Indians, Chinese or Burmans and the labour is supplied by Indians and Burmans. The rice export trade, indeed almost all export trade, is in the hands of non-Burmans.

Next in importance to the cultivation of rice comes that of sesamum, the expressed oil of which is used in Burmese cooking and is exported. The area sown in sesamum in 1937 was 1,427,132 acres. Groundnut is also grown for the same purpose and its acreage is increasing. The other crops, which normally take up about 1,500,000 acres each, are legumes and cotton. With modern methods it is possible for Burma to have a greater cotton-growing future. Only small quantities of cotton are turned into finished goods within the country, though in older days nearly every house had its own spinning-wheel and handloom. Textile goods constitute the major portion of Burma's imports.

Sugar-cane is among the newer general crops in Burma. Although the Burmans have always had a kind of sugar made from sugar-cane and a variety of toddy palms, there was no commercial sugar refinery till 1930. From about 1920 the Netherlands Indies reduced their imports of Burma rice. In Java they diverted land which once grew sugar to paddy. India developed its sugar industry and embarked on a policy of tariff protection. Burma, which was then part of

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India, had similarly to begin to grow its own sugar requirements and set up sugar factories.

Tea is cultivated in the Northern Shan States. The plant is indigenous, and has been under the supervision of European experimentalists. The production of tung oil has also been successful. Burma tobacco is considered to be of excellent quality and flavour, but in general the tobacco trade suffers from unscientific methods, lack of standardization and uneconomic marketing.

Forests. Teak has always been the most valuable tree commercially, while bamboo is probably the most useful forest product from the point of view of the people. The necessity of getting and keeping up the supply of teak for naval purposes first turned the attention of the Government of India to the question of the conservation of forests. When the annexation of Burma added rich forests of teak to the Empire, the Government selected the best tracts of teak forests and land not suitable for other cultivation and formed state forest reserves, which now total more than 20,000,000 acres. About 500,000 tons of teak are felled annually, 80 per cent of which is exported to India. The Forest Department has also begun systematic plantations of teak so as to ensure a constant supply. Pyinkado, the next most valuable tree, is used mainly for railway sleepers because of its resistance to white ants. There are also other jungle and rare woods which find a ready sale. Forest earnings, which form approximately 20 per cent of the total revenues of Burma, show a good margin of profit.

Mineral Production. Burma has a wide variety of minerals, of which the most valuable is undoubtedly petroleum. For centuries the Burmese have dug oil from the shallow wells of Yenangyaung area along the Irrawaddy river, the right to dig for oil being restricted to a few families. In 1886 the Burmah Oil Company was established and boring for oil was started in the next year. The production in 1887 was 2,335,305 gallons, and in 1904, when the first modern well was sunk by American drillers, it rose to 118½ million gallons. In 1937 the total production was more than 300 million gallons, or one-half per cent of the world yield. The Burmah Oil

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Company is the largest single employer of labour. In 1935, it had 19,094 employees in the fields in addition to its workers in the refinery and tin plate workers in Syriam.

The other important mineral products are silver, lead, tungsten, tin, copper, precious stones, limestone and clay. The largest mines are those of the Burma Corporation at Namtu, not far from the Chinese frontier. Before the war, Burma was the largest producer of tungsten in the world, the main deposits lying in the Shan States and Tenasserim. In 1938 Burma produced 212,827 carats of rubies and sapphires. Jade of all varieties and colours is found in the Mogaung valley and exported mainly to China. The amber mines are situated in the thickly wooded Hukawng valley. The cutting and polishing of stones is quite an important industry in Mandalay and Rangoon.

Foreign Trade. Being an agricultural country, Burma's main imports were manufactured goods, mainly textiles and iron and steel. In 1937-8, the total imports amounted to Rs. 23,80,00,000, of which India accounted for about half, Britain about one-fourth and Japan about one-tenth. The exports were valued at Rs. 50 crores, 2,842,838 tons of rice valued at Rs. 20 crores accounting for 40 per cent. The foreign trade fluctuated widely, depending mainly on the price obtained for rice. When the depression came and the price of rice fell, the value of foreign trade fell to as low as Rs. 65 crores in 1933-4 from Rs. 105 crores in 1929-30. During the decade ending 1936-7 Burma had a trade balance of about Rs. 30 crores, a large part of which was cancelled by overseas remittances, and rice exports were about three million tons.

Communications

Waterways form the most important means of communication in Burma. There are innumerable craft, from the village canoe carrying fruit and vegetables to a local market to the large cargo steamers of the Irrawaddy Flotilla Company. The Burmese love water. Wherever possible, they establish their villages by the bank of a river, and the riverside is the playground of the children and the meeting-

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place of the village maidens. Nearly the whole population turns out to greet a steamer. These people are not likely to abandon their beautiful waterways for the dusty roads unless there is a strong compensating advantage. The whole of the timber and quite three-fourths of the rice are carried by water from the forests and fields to the ports for export.

The Irrawaddy river, which flows through the middle of the country from north to south, is the main artery for freight; its tributaries bring down the produce of the hinterland; its delta with its innumerable creeks has a canal system which provides transportation for all parts of the great rice-producing areas. The Twante Canal, widened and deepened in 1935, enables the largest river steamers to go direct from Rangoon to Mandalay. The Pegu-Sittang Canal, which connects the Irrawaddy and Sittang rivers, was the only line of communication between Rangoon and Toungoo before the railway was built in 1885, and even now it is used a great deal for the transport of grain to Rangoon and all the timber that is floated down the Sittang. The Salween river, hemmed in by hills and mountains, has rapids extending a score of miles which make navigation impossible, but there are stretches where the river is calm and deep and boats can be used. A boat connexion between the Salween and the Irrawaddy is possible during the rains. Tenasserim and Arakan have many navigable rivers, and a large boat traffic exists between the islands that cluster round these coasts.

The first railway, from Rangoon to Prome on the Irrawaddy river, was opened to traffic in 1877. Eight years later another line was built to Toungoo, then a frontier town between British Burma and the Burmese Kingdom, and now most of the important towns are linked by over 2,000 miles of metre-gauge line. The building of the Ava bridge across the Irrawaddy in 1934 made through traffic from Rangoon to Myitkyina possible. The opening of a road and railway from Mandalay to Lasbio in 1903 revolutionized transport in the Shan States, hitherto dependent on pack-animals for the China trade.

From time to time the question of linking the railway

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systems of Burma and India has received attention. Three routes have been surveyed, but the desire to develop internal communications and the fear of greater Indian immigration have prevented any schemes from being worked out. After this war, the question of linking up the railways of India, Burma and China will, no doubt, be revived.

Road construction has been slow in Burma. Roads were looked upon as feeders to the rivers and railways, which already provided transportation for inland traffic. The cost of making metalled roads is high because of the scarcity of good stone and the high cost of labour, and in 1940 the mileage of roads suitable for wheeled traffic was only 17,000, of which 12,500 was motorable. The main trunk highway is from Rangoon to Mandalay, parallel to the railway. Another road goes from Rangoon to Prome, along the banks of the Irrawaddy and through the oilfields of Yenangyaung. The Shan States now have excellent roads. The Mandalay-Lashio road has been extended to the frontier, from whence the highway leads on to Kunming, the capital of Yunnan.

Since European travellers reached the Bay of Bengal, they have been trying to find a short-cut land route to China. Many attempts were made before and after the British annexation of Burma, but it was not until after the Chinese moved their war-time capital to Chungking that anything materialized. The Burma-Yuonan Highway is a great achievement. It has been of great value as an emergency measure, but its usefulness after the war is still doubted by most people. Ordinarily the volume of inland trade between Burma and China is not very great and it has declined in recent years. Between 1927 and 1937, the value of Burmese exports to China fell from 5½ million to 1 million Shanghai dollars. Some eighty per cent of the Chinese imports into Burma consist of raw silk, and with the preference for imported silk goods any large increase in this trade is improbable. There are products of Burma like tung oil, bristles, skins and hides and the minerals of Yunnan which would use this road, but the Burmese still feel that the Sino-Burmese trade can never be more than a fraction of their

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maritime trade and they fear the increase of Chinese immigration.

There is no through road from Rangoon to Bangkok, though in the dry weather a trip can be made to Siam by way of Kengtung and Chiengrai.

Education and Religion

Early writers on Burma have emphasized the fact that 'few among the Burmese did not know how to read and write because the monk, in whose care little boys were entrusted, always taught them to read and write'. It is not known how far back this state of things can be traced, but it is a remarkable fact that Burma had universal education of a sort long before anything of the kind existed in Europe. Education is co-extensive with Buddhism, which is professed by about 85 per cent of the people. According to Burmese Buddhism, every boy joins the Order when he is in his teens. The story of Prince Siddhartha's renunciation of worldly pleasures is re-enacted when the boy, dressed in his best clothes, goes round the town or village in a procession and then exchanges his finery for the yellow robe and follows the monks to the monastery. He remains there for any length of time he desires—some never return to lay life again. Thus every Burman Buddhist is in close touch with the clergy and his whole life is coloured by the teachings of the Buddha. There are no organized Buddhist missions, but the wandering monk is ready to live in any village which will give him food and shelter and a boy or two to live with him and attend to his wants. These boys, and others who come from home every day for lessons, are taught to read and write Burmese and to understand the Buddhist scriptures. In no other Buddhist country do the monks occupy themselves in education to anything like the extent they do in Burma.

The Burmese king was the protector of the Buddhist religion and the ecclesiastical commission appointed by the king was the mechanism on which the Buddhist clergy relied for power to unfrock its undesirable members. The British

policy of non-interference in religion did away with this power. The *thathanabaing* who was appointed by the British Government was merely the nominal chief *pongyi*, and without the backing of the state he had no means of preventing undesirable elements creeping into the priesthood. Unfortunately some *pongyis* have been persuaded by political agitators to help in elections and political movements and have become disinclined to teach the young. When the Government proposed to assist vernacular education, it made many attempts to induce the monks to come into the educational system. They were supplied with books; instructors were sent round to the monasteries to train teachers; money grants were given; and lay teachers, appointed and paid by the Government, were supplied to the monasteries. None of these measures succeeded, however, in raising the standard of efficiency of the monastic schools.

As part of British India, Burma was greatly influenced by Lord Macaulay's Minute on Education, 1835, which committed India and Burma to a system of English education. The aim no doubt was utilitarian; the East India Company wanted clerks and the schools were expected to supply them. The trouble is, that that is the only thing the schools ever did. There has been little relationship between the subjects taught in school and the conditions of life in Burma. Emphasis was laid on English; parents believed that they were giving their children the best start in life by sending them to an English school. Soon there grew up a number of young men and women who could not read or write their own mother-tongue correctly, who did not know the history and traditions of their country and who became cut off from the mass of people whose educational needs had been neglected. The Government spent large sums of money on secondary education of boys and girls regardless of the means of the parents or the ability of the pupil, while pupils in primary schools and the children of poor parents received little or no assistance. The average annual cost to the Government per student in the University was about Rs. 800, in the secondary schools about Rs. 40, while in the primary schools it was Rs. 7-5-0 in 1935-6, Rs. 8-9-0 in 1937-8 and Rs. 9-2-0 in

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1938-9. It should be the reverse: there should be one state system of education whereby primary education is offered free to all who choose to avail themselves of the offer, while secondary education is not assisted without some kind of selection. In Burma, the towns have been favoured at the expense of the villages, the rich have been favoured at the expense of the poor, and the gulf between the educated townspeople and the ignorant peasants has been growing wider. When rural self-government was introduced, the lack of educated intelligent men in the rural areas prevented the scheme from being properly worked. The same drawback appeared in the elections of the members of the legislature, when English-educated town-bred men, elected to represent a rural constituency of which they had very little knowledge, used it merely as a stepping-stone to a political career, leaving the rural areas without leaders or representatives.

In spite of all the defects of the educational system, when Burma was part of India it was the most literate province. In Rangoon, where most of the wealthier Burmans live, 820 men in 1,000 are literate, a figure most probably not equalled in any other city in Asia of comparable size outside Japan. Burma has a smaller number of university students in proportion to her population than Bengal, Bombay, Madras or the Punjab. Wealth and intelligence are more widely diffused in Burma than elsewhere, and hereditary ability is likely to be found among the descendants of generations of headmen, who now seldom have any opportunity of higher education. The only way to get more men of ability for the administration of the country is to seek them up and down the land and to educate them at public expense.

Relations with India

For many centuries intercourse has taken place between Burma and India, but Indian culture has never been as deeply entrenched in Burma as in other parts of south-eastern Asia. Behind the mountain barriers, the various groups of Mongolian immigrants had become welded into a nation and at no period do we find any tendency for union between the

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two peoples. It was by accident that the political union was brought about, and it was administrative expediency that kept them together. From the beginning there was opposition to the placing of Burma under the political tutelage of India, and in the decade before the separation of Burma from India many unfortunate incidents occurred which made Indo-Burmese relations one of the most difficult problems facing the administrators of Burma.

The final Report of the Riot Enquiry Committee, established by the Government of Burma after the Indo-Burmese riots of 1938, put forward a strong plea for the re-examination of the whole Indian question. Indian immigration, in its modern phase, had its origin in the change that took place in the economic life of Burma when the Suez Canal opened up new markets for Burma's rice. There were large tracts of cultivable land in Burma, and a rapid extension of the area under paddy-cultivation followed. For the most part the waste lands were cleared and brought under cultivation by Burmese, but the chain of services intervening between the agriculturist and the consumer of his produce fell into the hands of non-Burmans, especially Indians. Indian traders and Indian labour came into Burma not only for the rice trade but also for the development of trade and industry in general. The Chettiyar community in particular, though events have made it unpopular, performed a useful service in providing agricultural credit. Burma therefore has been greatly developed by Indians, but the fact remains that the Burmans are none the richer for it. The bulk of the earnings of Indians was remitted yearly to India. Hundreds of Indians were also brought in to fill the subordinate posts in Government and commercial offices. For some time there was no competition between the two peoples: each had their own sphere in the economic life of the country; but conditions changed. As education expanded, and Burmans became ready to take their place in the various departments of administration and in commercial firms, they were faced with keen Indian competition. Among the uneducated, there was the same rivalry. The small peasant proprietors have increasingly lost their lands to non-agricul-

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tural absentee landlords (who were mostly Indians) and have been compelled to seek a footing in occupations other than agriculture, where they could not compete with people whose standard of living was lower than their own. This competition between the two peoples may not be as extensive or acute as some nationalists think, but in times of acute economic distress, as in 1930, the Burmese found the Indians a convenient object of resentment, and Indo-Burmese relations deteriorated rapidly.

The Committee that was set up by the Burma Legislative Council, to confer jointly with the Simon Commission in 1929, held that the first step towards responsible self-government was the separation of Burma from India. They added that Burma's political connexion with India was wholly arbitrary and unnatural. They declared that Burma's political subservience to India had seriously jeopardized her financial and economic interests and even threatened to denationalize her. The Simon Commission therefore recommended the immediate separation of Burma from India, and after much controversy Burma was separated from India in 1937 and given a constitution which was in some ways more liberal than that of India.

The question of a financial settlement between Burma and India was first considered by the Government of India in 1931 when a tentative scheme was drawn up. Later an independent commission, consisting of the Rt. Hon. L. S. Amery, Sir Sydney Rowlatt and Sir Walter Nicholson, was appointed by the Secretary of State for India to examine the whole problem. The Report submitted by them in 1935 became the basis for the subsequent settlement, by which Burma assumed 7.5 per cent of India's net liabilities. Thus Burma separated from India owing the latter Rs. 50.75 crores, which it undertook to pay in 45 annual instalments. In addition Burma had to pay 3.5 per cent interest on her indebtedness and 7.5 per cent of the pensions of the Central Government of India subject to annual decrements over a period of 20 years. It was believed that under normal conditions, Burma stood to gain annually about Rs. 325 lakhs by the separation. The India Office building in

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London is jointly owned by India and Burma and the Secretary of State for India is also the Secretary of State for Burma. Burma had also the assistance of the technical services of the Government of India; and civil aviation and certain specialized services continued under Indian direction during the period of adjustment. The Rangoon branch of the Federal Reserve Bank of India, with which the Imperial Bank and all 'scheduled' banks must maintain deposits, continued to manage the currency and central banking functions of the Government of Burma. Indian coins remained legal tender in Burma but bank notes were specially printed.

The Indian population in Burma according to the 1931 Census was 1,017,825, of whom 630,000 were born outside Burma. This formed 6.9 per cent of the total population as compared to 4.9 per cent in 1872. From estimates made of the Indian population after 1931, the figure shows a decrease of nearly 100,000, but it cannot be concluded that the decrease in the movement of Indian labour was being sufficiently self-regulated. The Baxter Commission was appointed to study the whole question of immigration, and its recommendations became the basis of negotiations between the two Governments. An agreement was reached, and from October 1941 Indian immigration into Burma became subject to regulation and restriction. An Indo-Burma Trade Agreement was also signed in 1941 by which Indian goods imported into Burma will enjoy a 15 per cent tariff preference over non-Empire goods and a 10 per cent preference over Empire goods. Indian finished textiles were granted a 15 per cent preference over all other imported piece-goods of whatever origin. India is one of Burma's best customers, in normal years taking about 60 per cent of the exports. Burma and India can each supply what the other needs. India imports rice, timber and petroleum and gives Burma coal, textiles, iron and steel. Since the separation, trade relations between the two countries have become closer. Exports to India increased from 50.9 to 60.5 per cent and the percentage of imports from India increased from 48.8 to 55.6. The two countries can benefit by fostering mutual trade. If the Burmans can be sure that their economic growth and interests

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will not be stifled or overlooked, and the Indians in Burma can be assured that their status in Burma will be the same as that of Burmans, then Indo-Burma relations will be placed on a good footing and a better understanding between the two countries will be established.

Nationalism

When Mandalay fell into the hands of the British after a very short war and King Thibaw was taken to India, the people did not realize the full significance of the situation. King Thibaw had not been a popular king like his father Mindon, and the people thought that the British would place another king on the throne. Such a solution did occur to the British, but the character of the Burmese dynasty was not such that it would make a puppet king possible. At first the British attempted to rule the country through the *Hluttaw* (Council of Ministers) but the Burmese central government had become so weak that its control did not extend beyond the regions of the capital. When direct administration by British officers was substituted, the people knew for certain that it was the end of the Burmese kingdom. A wave of resistance broke out all over the country, even in Lower Burma which had been under the British since 1826. Although the Burmese armies had been defeated in a few weeks, the pacification of Burma took five years. Much of the unrest was caused by gangs of dacoits and criminals but there can be no doubt that elements of true nationalist spirit permeated the disturbances and other periodical risings. Burma has a more homogeneous population than most countries and a strong sense of racial unity has developed.

As part of British India, Burma participated in its constitutional reforms. In 1897 Burma was created a province of a Lieutenant-Governor and was given a nominated Legislative Council. A beginning had also been made in local self-government by the establishment of municipal and town committees in 1874. Under the provisions of the Morley-Minto reforms the Legislative Council was enlarged. The

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Government of India Act of 1919, however, left Burma out of the working of the Montagu-Chelmsford scheme. Strong protests were made all over Burma and nationalist societies began to grow. Deputations were sent to India and England and agitation took place in many parts of Burma. About the same time dissatisfaction with the educational system resulted in the university and schools' boycott and the establishment of National schools all over Burma. Most of these schools later accepted grants-in-aid from the Government and carried on the work of fostering the growing pride in race and country.

In 1923 Burma received its second reformed constitution. Under the dyarchical system, Burma had a Legislative Council of 103 members, of whom 80 were elected from a franchise of about two million. The post of Lieutenant-Governor became that of a Governor, and Burma's interests were represented in the Indian legislature by two members in the upper house (Council of State) and four members in the lower house (Legislative Assembly).

The decade prior to the separation of Burma from India was marked by political and economic unrest. The collapse of rice prices during the period of depression caused a rapid growth in the indebtedness of the rural population and the large-scale alienation of land resulted in serious agrarian problems. The first Indo-Burman riots took place in 1930. There was dissatisfaction over the Simon Commission Report in June and in December, and a rebellion broke out in the Tharrawaddy district. The cause was most probably economic, but though limited in area the rebellion exhibited many of the characteristics of one of those periodic nationalist risings that used to take place after the annexation. None of the main political parties joined the movement, and it soon developed into a looting campaign directed mainly against Indians. This uprising was followed by anti-Chinese riots. Burmese nationalism had directed its attention towards the Indians and Chinese because it was these two peoples who were most obviously in the way in those types of employment into which the Burmese were now anxious to enter.

The main platform of all political parties in Burma was the

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advancement of Burmese nationalism, but the most extreme form was expressed in the Thakin movement. Thakin means 'master' or 'lord' and it was widely used as a term of address to Europeans. Young Burmese of extreme nationalist views adopted the term for themselves when they formed the Dobama Asi Ayon or 'We Burmans League'. They advocated the use of the Burmese language and everything Burmese. In addition to being in touch with Indian agitators, the Thakins co-operated with the All-Burma Students' Union, the All-Burma Cultivators League, the All-Burma Workers' League and the Pongyis' League. They admired the Soviet system and their tendency was towards communism. The riots and strikes that followed were as much manifestations of anti-British sentiments as of economic unrest. After the outbreak of the European war in 1939, some extreme nationalists expressed their admiration of the Hitlerian system, while others began to look to Japan to help them to gain independence. In the Thakin party, the majority turned to totalitarianism as the rallying-ground for anti-British sentiments.

From 1937 to 1941, Burma had three ministries. No party was strong enough to give a stable government to the country. Dr Ba Maw, whose Sinyetha (or Poor Man) Party only controlled 14 out of 132 seats in the legislature, formed a coalition government and for a time was very popular. Soon it became obvious that he could not fulfil the exaggerated promises that he had made at election time, and with the outbreak of students' strikes and labour troubles, he fell into disfavour in 1939. U Pu of the Peoples' Party next formed a ministry which did not last very long. In September 1940 he was replaced by U Saw, who had broken away from the Peoples' Party and had founded yet another party called the Myochit (Patriot) Party. U Saw's administration provided the country with a completely Burmanized leadership. It proclaimed as its programme an intensive Burma-nization of the Government services and promised to seek national honour and complete home rule through evolution rather than revolution. Meanwhile Dr Ba Maw resigned his seat in the House of Representatives and

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with the Thakins formed the Freedom Bloc. At a meeting in Mandalay, he declared himself Anashin (dictator) and made seditious speeches. He was arrested and tried and was in prison at Mogok when the Pacific war broke out.

Leading nationalists desired some kind of a pledge from His Majesty's Government regarding the status of Burma after the war. In November 1941 the Secretary of State for Burma announced that it was the objective of the British Government to help Burma to attain Dominion Status as speedily and as fully as may be possible in certain contingencies immediately after the conclusion of a victorious war. The Governor confirmed Mr Amery's statement, and in compliance with the request of the Cabinet appointed a Burman as one of his Counsellors. In the same month U Saw visited London, it is said for the purpose of securing a pledge of immediate and complete dominion status for Burma. If this was his purpose, he was not successful. He went on to the United States and, after the Pacific war broke out, he was detained on his way back to Burma on the ground of having been in contact with the enemy.

Any attempt to reconstruct Burma after the war can only succeed if it gets full nationalist sympathy behind it. At the same time Burmese nationalists need to be less absorbed with the internal problems of Burma and to take more cognizance of world affairs. Perhaps the shock of war will bring a sense of added realism into Burmese politics and persuade political leaders that Burma's problems must be considered now not merely as internal concerns of a unique and isolated 'Golden Country' but as part of the whole international system. Closer contact with China, India and Siam as a result of the improvement of communications in war-time and the importance of Rangoon on the Far Eastern air routes will make it increasingly necessary for Burmans to have a realistic outlook towards external relationships.

The Future

Much has happened in Burma since 7 December 1941. Although the war had come to the East, the people of Burma

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did not think that it would reach Burma. Since the British annexation, no invader had entered their land; for over fifty years they had had good government, peace and prosperity. Although they were proud of their race and often spoke of the days of the Burmese kings, they were for the most part happy and contented so long as the price of paddy was good. They were as free as any people of the world from all kinds of tyranny. Burma had no feudal or caste system and no industrial proletariat. No one was very rich, and no one died of starvation. The resources were great while the population was still small. In fact, Burma had a good start over most countries in the matter of an ideal social organization. The people were adjusting themselves to the *tempo* of modern life. It was only a matter of time before the country became a full member of the British Commonwealth of Nations.

In February 1942 all appeared to be lost. The Japanese troops had entered Burma and were advancing towards Rangoon. The people were dazed and puzzled. Excepting for a small handful of extremists and the rabble that follow behind an invading army to loot and destroy, the Burmese people were not pro-Japanese; neither did they fully support the British. Both Europeans and Burmans had believed in the impregnability of Singapore and not until the last moment did the mass of people believe that an actual invasion of Burma by Japanese troops could happen. When the threat materialized, the Burmese political leaders, shaken at last out of their concentration on internal politics, tried hard to rally the country to the realities of the situation. When the Japanese troops swept over Lower Burma, they were in fact succeeding. Had they had a few more months it is probable that a strong public opinion in Burma would have been aroused against Japan. As it was that most dangerous thing—apathy—prevailed. Those in the districts did not know what to think and what to do. All they knew was that they must make themselves safe from looters and dacoits and make the best of the existing circumstances.

The country has been devastated and the people ruined. The first thing to do after the war will be to rehabilitate the country and help the people to get back that peace and

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prosperity which all desire. One cannot yet visualize what the general trend of the world will be after the war, but Burma with its homogeneous population and its indigenous institutions of democracy will certainly be more than a mere Road, and will have a part of its own to play in the comity of nations.

By the time that further bombing and a second campaign has finished, Burma will be in sore need of material assistance and it is difficult to see how the nation can be rebuilt without the help of capital from outside. On the one hand, foreign investors and commercial undertakings will be chary of risking capital in Burma unless they can foresee a reasonably long period of stable government without the spectre of repudiation or of expropriation on Mexican lines, on the other hand Burmese national sentiment will demand closer control of foreign investments and enterprises in the national interest of the country and the fullest opportunity for local capital and enterprise to take part in Burma's commerce and industry. Burmans were gradually coming to realize that, under the 1935 constitution, they had much of the substance of political power but they were still resentful of the fact that they had so small a part in the economic life of their country.

In the sphere of administration, it is good to know that the Burmans and British of the Government of Burma, now in Simla, are tackling with energy the great problems of all sorts which the rehabilitation of Burma after the war will involve. The catastrophe of war has at least broken many precedents and cast off many incubi. It has brought to many branches of administration the opportunity for a fresh start on lines more attuned to contemporary Burmese aspirations and for the employment of more modern and efficient methods. Perhaps after all some good will come out of the present tragedy: in the words of the Burmese proverb, *Myay oke myah pyo lay ja, kyauk oke haint ti lay ant*, 'As the bricks have fallen down, let us build again in stone'.

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No. 6

CEYLON

BY

H. A. J. HULUGALLE



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CEYLON is India's nearest neighbour by sea and her strategic importance in the defence of the peninsula has been emphasized by recent events. British Indian subjects make up a sixth of the Island's population while 95 per cent of the remainder are descended from Indian immigrants. It is not surprising, therefore, that India should have influenced Ceylon for 2,500 years. What is surprising is that Ceylon should have preserved an independent existence. The introduction of the 1931 constitution in Ceylon, which brought about changes in the political rights of Ceylon's 'floating' Indian population, led to some controversy. Recent negotiations, however, coupled with the realization on both sides that the cultural, economic and political futures of Ceylon and India are inter-related, have done much to promote a settlement.

As editor of *The Ceylon Daily News* since 1931 H. A. J. Hulugalle has been in close touch with all recent developments in Ceylon and particularly with the Island's 'Indian problem'.

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CEYLON

Geography

ANCIENT writers exaggerated the size of Ceylon. Even Ptolemy, the Greek astronomer who lived in Egypt in the second century A.D. and who published the earliest map of Ceylon we possess, made the Island as large as Sumatra or Madagascar. In A.D. 1292, Marco Polo gave it a circumference of 2,400 miles. Writers of a still earlier period apparently believed that the west coast of Ceylon extended almost as far as Africa.

The Island's extreme length from north to south is only 271 miles and its greatest width is 140 miles. It has an area of 25,332 square miles, which is nearly the same as that of Holland and Belgium together, or approximately half the area of England without Wales. In size and population the nearest parallel in India is the State of Mysore. The shape of Ceylon on the map is familiar. The Dutch thought it resembled a Westphalian ham: hence 'Ham's heel', the name of the Dutch fort in the north.

The greater part of Ceylon is low-lying and flat, but the south-central portion is a mass of mountains and hills, with a few peaks of 7,000 feet and more. The Island is relatively well-watered by many rivers and streams, none of which is navigable, even by small craft, except in its lower reaches. The average rainfall varies from 40 inches in the north-west and the south-east to over 200 inches in the hill country. The climate varies, without reaching extremes, from the warmth of the seaside and the plains to the temperate atmosphere in the hills. Like other countries situated in or near the equator, the seasons are not well-defined and there is no winter.

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Ceylon is a country of great natural beauty. The Brahmins called it Lanka — the resplendent island. After the Sinhalese settlement it was styled *Sinhala-dvīpa* from which is derived the current name Ceylon.

Colombo, the capital, with a population of approximately 300,000, is the only large city. It is one of the great commercial ports of the East. Trincomalee on the east coast is an important naval base. At the time it was captured by the British from the Dutch, Trincomalee was described as 'the finest and most advantageous bay, in the whole of India in which a whole fleet may safely ride and remain in tranquillity, a bay which is of such importance to the English that it assures their sovereignty over the west of India and places them in a position to defend their possessions against all European powers'. Ceylon's strategic position has scarcely altered with the centuries.

Other towns include Kandy, the seat of the last Sinhalese king; Galle in the south, the principal harbour until early British times; Jaffna in the north; and Anuradhapura, the ancient metropolis of the Sinhalese. These towns, as well as the important hill resorts which draw visitors from all parts of the world, are connected by a State-owned railway track of 950 miles. There are over 16,500 miles of road in the Island, of which 4,200 miles are metalled and motorable.

History

The early history of Ceylon reveals a continuous Indian influence. The distance between Point Calimere in southern India and Point Pedro in the north of Ceylon is only 36 miles. Yet it was this narrow sheet of water more than anything else that was responsible for Ceylon's existence as an independent country.

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There is little reliable information about the earliest inhabitants of the Island. The discovery of palæolithic stone implements buried in caves indicates that man had inhabited Ceylon for thousands of years. It is probable that a branch of the same stock which in pre-Aryan times colonized the Deccan extended its migrations to Ceylon.

The first Aryan settlers arrived in Ceylon about the year 500 B.C. The best known of them was Vijaya who was accompanied by a band of seven hundred followers. Tradition claims for Vijaya a noble lineage in Vanga (Bengal) but it is probable that he set sail from a port near Broach in the province of Bombay. It would appear however that there was a second stream of immigration from the Ganges valley which formed the substratum of the Aryan population of Ceylon.

The Sinhalese kings, beginning with Vijaya, ruled Ceylon, with few interruptions, until the arrival of the Portuguese in the sixteenth century A.D.; and the Kandyan kingdom in the central part of Ceylon lasted until the Kandyan territory was ceded by the Chiefs to the British Sovereign in 1815.

During this period of over two thousand years, Ceylon was often menaced by invaders from South India, chiefly from the kingdoms of Chola and Pandya, and the greatest Sinhalese monarchs were those, like Dutugemunu (161-136 B.C.) and Parakrama Bahu the Great (A.D. 1153-1186), who either successfully resisted the invader or carried the war into the enemy's camp.

Ceylon first came under the direct rule of a foreign power when the Chola king Rajendra I (A.D. 1014-1044) brought the whole Island under his rule. There was also a Tamil kingdom in the north of Ceylon, with its capital at Jaffna, in the thirteenth century and later; during a part of its existence it was a tributary to the great continental empire

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of Vijayanagar. In general, however, the kings of Ceylon were Sinhalese, of the Buddhist faith, and it was only as late as A.D. 1739 that the royal line of Sinhalese kings became extinct, giving rise to a new dynasty from the Nayakkar kings of South India.

Buddhism appears to have been the cohesive agency of the Sinhalese kingdom, whose literature and art owes an incalculable debt to the erudition of the Buddhist priesthood and the piety of its kings. The main industry was agriculture, and the Aryan settlers inhabited for many years only the wide and well-watered plains where the cultivation of rice was easy. The greatest engineering achievements of the Sinhalese were the construction of large storage tanks, often fed by the surplus waters of rivers, some of which cover an area of several thousands of acres. Anuradhapura, the first capital founded in 437 B.C., and Polonnaruwa, its successor (A.D. 760-1319), abound in ancient monuments bearing ample evidence of the civic virtues and enlightened conceptions of the monarchs who built and lived in them.

No special sanctity was attached to the kings who, in the earlier phases of the Sinhalese kingdom at least, were the natural leaders of the people. The royal succession was regulated by a system which combined inheritance and selection. But it was always a blood relative of the king who was chosen. The monarch was an absolute ruler who administered the central government with the assistance of a small council. The Buddhist priesthood were not permitted to interfere in the affairs of the State. A network of village councils called *gansabhas*, which exercised both administrative and judicial functions, constituted an effective system of local government.

As Professor Geiger, the well known orientalist, has

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written, 'for hardly any part of the continent of India is there such an uninterrupted historical tradition as for the island of Ceylon'. The Buddhist religion, which declined in influence in India, retained its hold on the people of Ceylon and coloured every phase of their life. Her island position on the main sea routes, ancient as well as modern, has been another reason why Ceylon has not been caught up in the political and social network of India.

The first European power to secure a footing in Ceylon was the Portuguese. There is evidence that the Greek subjects of the Roman Empire traded in the exports of Ceylon and large quantities of Roman copper coins of the fourth century have been excavated in many parts of the Island. But they were only merchants and had no colonial ambitions. It appeared at first that trade was the chief concern of the Portuguese also. Already established in the south-western coast of India, they took advantage of political dissension among the Sinhalese to entrench themselves in the maritime districts of the Island.

The Portuguese ruled the coastal areas of Ceylon from 29 May 1597, on which day Philip I of Portugal was proclaimed king of Kotte, and continued to do so until they were expelled by the Dutch in 1658. The Portuguese introduced the Roman Catholic religion and made many converts. Under the Dutch the country prospered, and during their rule of the maritime districts was introduced the Roman Dutch law which continues to be the common law of Ceylon. The breach between the British and the Dutch in 1795 led to the annexation of the Dutch settlements.

The newly-acquired British possessions were administered by the Governor of Madras until, in 1802, the Crown Colony system was introduced and the administration was directed

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from Downing Street. But there was still an independent kingdom with its capital at Kandy. Various attempts were made by the British to get the Kandyan king to agree to the terms of a treaty. The Kandyan nobles intrigued with the foreign power and one of them at least made an attempt to seize the throne. The king was deposed in 1798 and the person chosen as his successor, who was also a Nayakkar prince from South India—the royal Sinhalese line having become extinct in 1739—was crowned as Sri Wickrama Rajasinha.

The tussle between the Kandyan chiefs and the court continued during the eventful reign of Sri Wickrama Rajasinha, and the Governor, Sir Frederick North, was not slow to take advantage of the situation. He sent military expeditions against the Kandyans, whose king carried out a 'scorched earth policy'. The Kandyan wars did not create a good impression in England, and Governor North relinquished office in 1805 to be succeeded by Sir Thomas Maitland. The new Governor had the assistance of a man of brilliant parts, Sir Alexander Johnston, Advocate-General and later Chief Justice. Sir Alexander urged the development of agriculture and the repair and restoration of irrigation facilities. He established trial by jury and secured the abolition of slavery. He also formulated a liberal scheme of representative government, including the establishment of a Legislative Council, but his proposals in this respect did not prove acceptable to the Secretary of State.

The annexation of the kingdom of Kandy to the British Crown was effected in 1815, a consummation that was hastened by disunity among the Kandyan nobles, treachery, and the growing unpopularity of the king. After the capture of the king by the British forces, the Kandyan chiefs,

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claiming to act on behalf of the inhabitants, ceded the kingdom to the British.

The People

The Sinhalese.—The Sinhalese comprise roughly two-thirds of Ceylon's population of approximately six million. They trace their descent from the earliest Aryan settlers who intermarried freely with the indigenous inhabitants. They are a mixed race, the resultant of several waves of immigration, with much Tamil blood in their veins. From very early times they have had a distinct language which was at first an Aryan dialect written in the Brahmi script. The vocabulary has been enriched with Sanskrit and Pali words, and Tamil influence is reflected not only in the vocabulary but also in the structure of the language.

The Sinhalese brought their first political institutions from India. Every village had its council (*gansabhwawa*) for the administration of its affairs. The village council has survived through all the vicissitudes of twenty-four centuries and is part of the modern constitution of Ceylon. The Sinhalese also adopted the social system of the Hindus, though it suffered modification under the influence of Buddhism. The caste system has never been as rigid as it is in India, and child marriage and *purdah* are unknown.

The large majority of the people are peasants or small farmers, but with the rapid increase of population an increasing number seek employment as daily-paid labourers and artisans. The trade of the country has always been largely in the hands of foreigners, but in the south of Ceylon there are indigenous trading communities whose enterprise and skill in business have not been confined by the Island's shores. This exceptional aptitude for trade among a section

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of the Sinhalese is traceable to a time when Galle was a commercial capital and harbour known to traders in all parts of the world.

The upper and middle classes even when they are landowners show a partiality for town residence. The goal of most educated young men until recently has been a career in professional life or in Government service. The rapid spread of English education has fostered a cosmopolitan outlook. The Sinhalese readily adopt the habits and customs, the culture and clothes, and even the language and religion of the ruling power. It is not inconceivable that if Ceylon entered an Indian Federation or Union, Hindi would become as common among the people as English is today. Up to a few decades ago a Portuguese patois was the home language of many upper-class Sinhalese families.

The Sinhalese can be roughly classified into two divisions; the up-country and low-country Sinhalese. The up-country Sinhalese are loosely called Kandyan. The division has a historical basis as the majority of the Kandyans would be those whose forbears owned allegiance to the last Kandyan king. The caste system, which is partly based on occupation, may have had a racial origin. Its grip on the people is weakening and inter-caste marriages are not uncommon.

The great majority of the Sinhalese profess the Buddhist religion, although there is a considerable minority which is Christian. Missionaries of the emperor Asoka brought Buddhism to Ceylon in the reign of the King Devanampiya Tissa whose rule of forty years from 247 B.C. saw the religion firmly established in the Island. As the Pali chronicle the *Dipawansa* has it: 'Mahinda, going forth with four companies to the most excellent island of Lanka, firmly established there the faith and released many people from their fetters.'

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Buddhism exercised a vital influence on the life and character of the people, shaping their culture and civilization and providing a focus for their national unity.

At the census of 1931 there were 3,267,457 Buddhists, 1,158,522 Hindus, 523,066 Christians, 356,888 Muslims and 938 others.

Ceylon Tamils.—Next to the Sinhalese the most numerous are Tamils. Of these over half a million are 'Ceylon Tamils', inhabiting the northern and eastern parts of the Island but also settled throughout the rest of Ceylon. They have been in the country almost as long as the Sinhalese and, as we have seen, they have had their own kings. They came from many parts of the mainland including Chola (the ancient name of Tanjore) and Pandya (which included the greater part of the modern Madura and Tinnevely districts). The Tamils occupied a prominent place even in the Sinhalese kingdom, especially from the seventh to the eleventh centuries. 'They filled every office, including that of Prime Minister, and they decided the claims of competing candidates for the crown.'

The Ceylon Tamils are an industrious community, very much alive to the benefits of education and, in their native setting, given to more frugal ways of life than the Sinhalese. The majority are peasants but the Ceylon Tamils have manned the Public Services in great numbers and given to the learned professions many of their leaders. There are many Christians among them but the majority are Hindus. The existing differences between the Sinhalese and the Ceylon Tamils have a historical foundation which is well explained by Dr G. C. Mendis in his *Early History of Ceylon*: 'The rise of the Tamil kingdom created problems to which Ceylon was not hitherto accustomed. In Ceylon so far

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Sinhalese had been the chief language and Buddhism its main religion. In the Tamil kingdom Tamil became the chief language and Hinduism its main religion. Before long a distinction arose also in economic conditions. The Tamil kingdom arose in the Dry Zone and the Tamils followed the methods of cultivation suitable to this area. The Sinhalese, on the other hand, gradually abandoning the Dry Zone, began to occupy the Wet Zone, which was more productive and suitable also for the cultivation of products other than rice. These differences created a gulf between the two peoples, and they are partly responsible for the present divisions between the Sinhalese and the Tamils.'

The Indian Community.—Of the Indian community in Ceylon, whose number is estimated at about a million, the great majority are Tamil estate labourers from South India. We shall examine the position of estate labour in a later part of this pamphlet. They number about 700,000 and have been recruited chiefly from the Madura, Pudukkottal, Trichinopoly, Tanjore, Salem, Coimbatore, Tinnevely and Ramnad districts. They are in the main Hindus.

A numerically important Indian community represented in Ceylon are the Malayalis. They come from the Malabar coast—from Travancore, Cochin and British India—and are engaged in skilled labour in factories and workshops, as domestic servants, small traders and toddy-tappers. The majority are Hindus. They are not unlike the Sinhalese in appearance, are well conducted, industrious and intelligent. They do not in general engage in heavy manual work. Their preference for the same kind of work as the Sinhalese labourer chooses, when there is a choice, make them formidable competitors with local workers. Conditions now prevailing, however, have gone far to break down the prejudice which the Sinhalese

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labourers entertained for what were once deemed to be unworthy and menial occupations.'

Indian Tamils too are engaged in many of the occupations shared by the above class of labourers. They undertake domestic service, road labour, pulling rickshaws, scavenging, and also skilled work as tailors, barbers and gold and silver-smiths.

The trade of Ceylon is substantially in the hands of Indians. The financiers and contractors include many Nattukottai Chettiars from Pudukkottai State and Ramnad district. The cloth business is handled by Memons from Kathiawar and the trade in finer articles of clothing, such as silk and brocades, is largely in the hands of Sindhi merchants. A small number of Gujaratis from Bombay Province are to be found doing business in Ceylon. The Borahs who also come from western India are mainly large importers and exporters of foodstuffs. The Barathas from South India are usually small shopkeepers and coal-yard workers while the Nadars are petty traders. The so-called coast Moors are Muslim traders from the Malabar and Coromandel coasts. There is a small Parsi community but neither its numbers nor business interests show any signs of expansion. A small number of Baluchis are itinerating money-lenders.

Others.—According to the official statistics, there are 330,000 Moors in Ceylon. The word 'Moor' was introduced by the Portuguese, who doubtless borrowed it from the Spaniards who described the Moroccans as Moors. The Sinhalese word is *Marak-kala-minissu* or mariners. Moors are first heard of in Ceylon in the early eighth century and when the famous traveller Ibn Batuta visited Ceylon in the fourteenth century, Colombo was in the hands of a Muslim 'wazir and ruler of the sea' called Jalasti who had a garrison

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of Abyssinians. The larger number of the Ceylon Moors are agriculturists, especially in the Eastern Province, but many are engaged in trade. They are all Sunnis and their women observe a strict *purdah*. It is probable that the Moors are descendants of Arab traders who intermarried with the Muslims of South India and Ceylon.

Another small Ceylonese community, which till recently enjoyed a large share of the plums of the professional and public life of the country, is the Burgher. Most of them are descendants of the Dutchmen who entered the service of the British Government when the maritime provinces passed into British hands. There have been and are many brilliant men in this small community which numbers less than 40,000. They continue to make a full contribution to the life of Ceylon though the rapid spread of higher education among all communities has affected the privileged position they once held.

The Malays of Ceylon, numbering about 18,000, are also Muslims by religion. They are descended from soldiers of the Malay regiments employed by the Dutch and the British.

We come finally to the small British community, the representatives of the ruling race. They number about 11,000. There is a diminishing number of Government servants among them. The majority of male Europeans are merchants, planters and assistants in the European-owned stores. Quite recently Europeans belonging to His Majesty's forces have increased in number very considerably.

Resources

The greatest exertions of the Government at the present time are directed to the task of increasing the area under food crops, especially rice. There was doubtless a period in her history when Ceylon produced sufficient food for her

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needs. The many civil wars and invasions, however, disorganized the Island's intricate irrigation system and created conditions favourable to the spread of malaria. At present two-thirds of the Island's area are undeveloped while more than half its normal food requirements are imported.

About a million acres are cultivated with paddy. The other main crops are coconuts, tea and rubber. The last three account for over 90 per cent of the export trade of Ceylon. The Island stands next to India as a producer of tea. The majority of the tea estates are worked under joint-stock management and are owned by British capital, but there are no less than 54,000 small holdings.

As a rubber producer Ceylon comes third, after Malaya and the Dutch East Indies. The area planted with rubber is 605,000 acres. The proportion of planted rubber owned by British capital is about 45 per cent. There are some 140,000 acres owned by 90,000 small holders.

Ceylon's best customer has always been the United Kingdom. In 1939 she exported goods to the value of Rs. 1,500 lakhs to Great Britain, while she bought from her goods to the value of Rs. 450 lakhs. In the same year Ceylon sold to India goods to the value of Rs. 107 lakhs while importing goods from India to the value of Rs. 522 lakhs.

The Island's industrial resources have not been fully exploited. A hydro-electric scheme is under construction and plans are in hand for the establishment of cement and glass factories. A plywood factory has already been set up and there are indications that, with the return of more stable conditions after the war, many new industries will be started. Graphite is exported in large quantities and coconut oil and desiccated coconut have been manufactured according to the demands of the foreign market.

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There can be no doubt about the economic progress of the country, from the evidence of facts and figures. In 1811 Ceylon's exports were valued at Rs. 20 lakhs. Now they are nearer Rs. 30 crores and in a boom year like 1927 they reached Rs. 50 crores. But how, it may be asked, has all this affected the peasant who is the backbone of the country?

A Peasant Economy

In ancient times food production was the main form of agriculture followed in Ceylon. Although there were occasional famines, due to dislocation of irrigation facilities or neglect of crops as a result of invasions and civil war, the Island was more or less self-sufficient in its food supply. The king had the supreme disposal of land but he was not above the law. Title to land based on royal grants and long possession could not be disturbed. The land in the village was often held in shares and worked under a family system. To a considerable extent the village was both self-supporting and self-governing. When a colonial system was introduced by the Dutch and thereafter by the British the old conditions suffered a gradual process of disintegration.

The new conditions undoubtedly brought great prosperity to the country. The thriving coffee, tea and rubber industries brought wealth, increased employment, and enriched the public coffers. Communications were improved and large sums of money were available for education and the social services. But the balance of the rural economy was altered. The coffee boom earlier in the nineteenth century led to a stampede for land. Indiscriminate alienation resulted not only in the clearing of vast forests but also the absorption of whole villages. No margin was left for normal village expansion and no pasture for village cattle. Referring to

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these changes, Sir Emerson Tennant, who was Colonial Secretary at a later period, wrote: 'The Governor and the Council, the military, the judges, the clergy, and one-half of the Civil Servants penetrated the hills and became purchasers of Crown lands. Bidding was suppressed during sales and the land was purchased by speculators.'

The prosperity of the agricultural industries which exported their products left very little land in the so-called Wet Zone to meet the demands of a rapidly expanding population. The rate of increase of the population may be gauged by the fact that under British rule it has increased from about a million to nearly six millions. There are still vast tracts of undeveloped land but these are mainly in the malaria-infested Dry Zone.

Since the inauguration of the State Council in 1931 much attention has been paid to the development of the Dry Zone. Vast irrigation projects have been undertaken. Colonization schemes are being pushed ahead with a view to settling landless villagers and encouraging middle class agriculturists. The war has emphasized the weakness of an economy where under half the normal food supply is imported from foreign countries. Much time must elapse, however, before the full benefits of these schemes are realized.

The Ceylonese have generally preferred Government and professional service and agricultural pursuits to trade. This seems to have been the case even in early times when the ports of Galle and Mantota (Mannar) were the centres of a large entrepot trade. The Ceylon Banking Commission, which was presided over by the well known Indian banker Sir Sorabji Pochkhanawala, wrote: 'It is no exaggeration to state that 80 per cent of the Ceylonese population holds land and is dependent partly or wholly on income from the produce of the land for their maintenance. . . . The history

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of Ceylon records the exploitation of its commerce by the Portuguese, the Dutch, the British and the Indians for over three hundred years. Even at present its entire trade is being run by foreigners, with foreign capital, foreign labour and foreign brains. The non-Ceylonese element has kept a strong hold on the business, trade and industries of the country and few opportunities have been allowed to the average Ceylonese to engage in trade and industries either by Government or by business firms.'

There is some reason to think that the Ceylonese have at length realized the weakness of such an economic system and are trying to correct it.

Evolution of Self-Government

In the Sinhalese kingdom each village council sent its delegate to the district council (the *rata sabha*); above the village council and the district council were the supreme council of the Ministers of State and the king, who in theory at any rate was the elected chief magistrate.

The foreign powers who gained control of Ceylon did not seek to build on the foundations of the past, and until very recent times even the village council was little more than a name. Much could not be expected while the Island was governed by the Dutch East India Company and the British East India Company. The benevolent despotism of a Crown Colony administration was introduced in 1802, but there were many complaints of misrule, and the British Government sent out a Royal Commission in 1829. This body, which is known as the Colebrooke Commission, made a series of very important recommendations, including the abolition of caste distinctions in the civil administration, the admission of Ceylonese to the Civil Service, the extension of education and

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the encouragement of a free press. The most important practical measures which resulted from the investigations of the Commission were the establishment of an Executive Council to control the acts of the Governor, and a Legislative Council to ensure free discussion of public questions and the enactment of laws. The Commissioners added: 'The peculiar circumstances of Ceylon, both physical and moral, seem to point it out to the British Government as the fittest spot in our Eastern Dominions in which to plant the germ of European civilization, whence we may not unreasonably hope that it will spread to the whole of those vast territories.'

It is a strange fact that, notwithstanding the above declaration, the Constitution granted in 1833 remained unchanged for nearly eighty years although the country had made great progress in the interval. The reason is that the politically conscious minority was composed mainly of European settlers and, broadly speaking, their interests were well looked after by a Government whose principal officers belonged to the same race and class. There was a continuous demand for a substantial reform of the Constitution, and in 1910, for the first time, the principle of election was conceded in a somewhat niggardly spirit. Provision was made for the election of one Ceylonese to represent those 'educated on European lines', two members for 7,500 Europeans and one member for the Burghers numbering about 25,000. The other members of the Legislature were nominated by the Governor.

During and after the last war, representations were made to the British Government for a further extension of self-government and various instalments of constitutional reform were granted within a comparatively short period. The principle of territorial representation was introduced, though

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at the start the electorate did not consist of more than six per cent of the population.

But it soon became obvious that the Crown Colony system, whereunder the Governor was a benevolent despot, could not function with an elected majority. A Commission was accordingly sent out in November 1927, presided over by the Earl of Donoughmore. The commissioners' proposals for a new Constitution were revolutionary in many respects. They recommended an adult franchise for males and females, the abolition of communal representation, and government by seven Executive Committees. The committees were to be elected by the State Council from among their members, and the chairmen of the committees, together with the Chief Secretary, the Financial Secretary and the Legal Secretary, the three officers appointed by the Secretary of State, would form a Board of Ministers.

The seven Ministries were grouped as follows: Home Affairs, Agriculture and Lands, Communications and Works, Health, Labour and Industry, Local Administration, Education. The Ministers have no collective responsibility except as a finance committee.

After a keen debate, the Legislative Council decided to accept the new reform scheme, but only by the narrow margin of 19 against 17. The General Election of 1931, the first experiment in adult franchise in an eastern country, made a promising beginning and saw the introduction of the Donoughmore Constitution.

The weaknesses of the new form of government became apparent despite a very real transfer of power. Without collective responsibility it was often difficult to discover where responsibility lay, and in the absence of a party system, based on live political issues, the formulation of a

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Government policy was almost impossible. It would not, however, be correct to conclude that the State Council and the Board of Ministers could not or did not undertake and carry out work of national importance. Nor can it be said that the Constitution did not confer a real measure of responsible government. Its weaknesses were sometimes exaggerated and underlined by lack of political sense on the part of those called upon to work it. The truth of the late Lord Balfour's famous comment on the British Constitution had still to be understood by Ceylonese politicians. 'I doubt if you find it written in any book', said Lord Balfour, 'that the whole essence of the British parliamentary system lies in the intention to make the thing work.'

When demands were made by the Ministers and the State Council for a new Constitution based on collective responsibility, the Secretary of State replied that he would favourably consider such a request by a united Board of Ministers and not merely by a majority. The Ceylon National Congress accepted this statement literally and at the next election, in 1936, they sought to secure a hundred per cent Congress membership of the Board of Ministers, exclusive of the Officers of State. They succeeded in this, but homogeneity was bought at the price of minority good will. The Ministers, as we have seen, are the elected chairmen of the seven Executive Committees. The seven Ministers, every one of them, was not only a Congressman but also a Sinhalese. The formation of this 'homogeneous' Ministry, despite much good work that it has done, was a setback to political progress. The all-Sinhalese Ministry has been a sore point with non-Sinhalese politicians but it is generally recognized that the method of election was primarily responsible for the result.

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The present Governor (Sir Andrew Caldecott) in his dispatch dated 10 November 1938, regarding the Ceylon Constitution, wrote: 'Of the pan-Sinhalese Ministry it can at least be said that, so far as the present Constitution admits it, it provides an element of congruence. But it will be convenient to state here that not a single Sinhalese leader with whom I have spoken has expressed himself in favour of a pan-Sinhalese Ministry: on the contrary they deplore what they regard as its present necessity.'

The Governor recommended, *inter alia*, the abolition of the system of government by Executive Committees, and the establishment of 'a cabinet of the normal type'. The Secretary of State gave his general approval to the Governor's proposals, adding that his consideration of what measures if any should be taken for the amendment of the Constitution must depend on the public reaction to the proposals. A further investigation of the matter has been promised after the war but the difficulties created by the Committee system have not diminished by reason of the special circumstances created by the outbreak of hostilities.

The exigencies of the war have led the British Government to place the Island under the supreme control of a Commander-in-Chief. He is responsible for ensuring that all measures, military and civil, are co-ordinated. Unless circumstances compel the declaration of martial law, the executive control possessed by the State Council will not be affected, and the Governor, his Ministers and the Council will continue to be responsible for the civil government. A War Council has been established consisting of the Commander-in-Chief, the Governor, the members of the Board of Ministers and representatives of the Navy, Army and Air Force.

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Education and Development

Under the ancient kings of Ceylon the Buddhist priesthood was responsible for education. They conducted colleges for higher education and the king 'established a school in every village and charged the priests who superintended the same to take nothing from the learners, promising that they should be rewarded for their trouble by himself'. With the decline of the monarchy the system was undermined and the standard of literacy deteriorated. The European powers which gained control of the maritime provinces, from the sixteenth century onwards, opened schools; but they were primarily concerned with making converts. The Portuguese established Roman Catholic schools; and when the Dutch came on the scene, they organized a system of parish schools which laid emphasis on the spread of Protestant Christianity. Their example was not lost on the British who were 'determined that education which is offered should be essentially Christian in character, and accordingly enacted as a fundamental rule to be followed in all schools that one hour should be devoted to Christian instruction'. There were also other Christian missions at work. The Baptists started their schools in 1812, the Wesleyans in 1814, the American Mission in 1816 and the Church Missionary Society in 1818.

Yielding to pressure the Government adopted an impartial attitude to all denominations and supported with meagre grants such schools as were approved by it. Much later the Buddhists and Hindus formed their own educational societies and founded schools wherever there was a demand for them. The Government grant is now paid to all assisted schools which fulfil certain requirements laid down in the education code.

With a foreign power in control of the country the most

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profitable form of education was one which gave first place to a knowledge of the language of the ruling race. More stress was thus laid on English schools than on education for the masses. Parents regarded English education as an investment, and the younger generation were led to believe that it offered the means of escape from rural life and from manual labour which they had begun to regard as degrading. Thus there came into being a minority which was cut off from the mass of people and purely English education had a denationalizing influence. The language of the country and its history and traditions were neglected, and those who were supposed to be educated were often unable to speak or write correctly their mother tongue. Their home language was English, they said their prayers in a foreign tongue, and their children were deprived of the opportunity of knowing any other.

The gulf between the English-educated minority and the masses is still wide, notwithstanding the existence of an adult franchise. The drift from the country to towns of the educated and wealthier sections of the community has led to absentee ownership of land and a dearth of leadership where it is most needed: at least 85 per cent of the Island's population live in rural areas.

The educational system cannot be blamed for all the misfortunes that overtake a country but it must exercise a vital influence both in shaping the character of a people and in fitting them for mundane responsibilities. Of no country can it be said that its educational system is completely satisfactory, and Ceylon is no exception to the rule. Indeed, Ceylon's educational system suffers from many serious weaknesses. One of the most serious has already been alluded to. It has bred a contempt for old customs and old ways of

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living. This bias in favour of shoddy imitations has not been fully corrected even now.

But when the weaknesses of the educational system are acknowledged, we must recognize that solid progress has been made in many directions. The literacy standard among males rose from 29.8 per cent in 1881 to 56.3 per cent in 1921, the last year in which a complete census was taken. Among females it rose from 3.1 per cent to 21.2 per cent in the same period. The past twenty years will have shown an even more spectacular improvement. There are over 800,000 children out of a total population of six million in over 6,000 schools. The Government expenditure on education has risen from Rs. 9 lakhs in 1901 to Rs. 220 lakhs in 1941. The denominational schools, Christian, Buddhist and Hindu, have borne a large share of the responsibility for elementary and secondary education. The University College, which was recently converted into a degree-granting University, has been sending out annually about two hundred London graduates in science, mathematics, classical languages, history and economics. The high standards of the Public Services and the professions reflect well on the work of the colleges and schools in Ceylon. The leadership in politics, in cultural movements, in social services and commercial enterprise is supplied by the educated minority, as would be expected. Above all, public health has made quite remarkable progress not only in the elimination of such infectious diseases as smallpox, cholera and bubonic plague but in the preventive measures based on a proper appreciation of the fundamental principles of nutrition and sanitation.

There is now an over-production of the personnel for the professions and the Public Services, which creates a problem of the educated unemployed. This can be solved by a bold

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and imaginative policy directed towards the provision of facilities for training in industry and commerce and the creation of opportunities for the younger generation to find new work and adopt new careers.

Indians in Ceylon

The outsider is often puzzled by what he has heard and read about the existence of an 'Indian problem' in Ceylon. Are not the Ceylonese, he asks himself, of Indian origin and are not their religion and customs the outcome of Ceylon's long and intimate association with India? Proximity by itself is insufficient to foster a common outlook; nor does racial kinship and religion always make for harmony. Ceylon, moreover, is not the only part of the British Empire which has had an 'Indian problem'. Similar causes have produced similar results in Burma and elsewhere. And it is by no means easy to analyse in detail a situation which contains many imponderables.

Roughly one-sixth of the population of Ceylon is described as Indian. Unlike the French and German immigrants to Great Britain this minority has not been assimilated in what is commonly described as the Ceylonese population although there are today many hundreds of Indians whose permanent home is Ceylon. The best evidence of assimilation is the existence of inter-marriage. Inter-marriage between Indian Tamils, the majority of whom are Hindus, and Sinhalese, the majority of whom are Buddhists, is very rare. But inter-marriage between Hindu Indian Tamils and Hindu Ceylon Tamils is not less rare, despite the ties of language, race and religion. A second powerful factor which makes the Indians a community apart is the feeling common to the large majority that India is, and must remain, their permanent home.

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The large majority of Indians in Ceylon are labourers in tea and rubber estates. There is little direct competition between Indian labour on estates and indigenous labour, and it is recognized by the Ceylonese that for the working of the estates Indian labour is essential. Notwithstanding their preference for peasant agriculture, Sinhalese labour comprises an appreciable percentage of the workers in tea, rubber and coconut estates in the low country. There is apparently enough work for both classes except in times of acute industrial depression.

Outside the estates, Indian labourers are often prepared to accept less favourable conditions of work than Ceylonese labour and their standard of living is lower. They are more regular in attendance at their work and are not handicapped in the same way by frequent social and domestic obligations as the Sinhalese are, since in many cases their families are left behind in India.

The Indian business community have succeeded in securing the greater part of the Island's trade. By comparison they are less useful to the Ceylonese than the British capitalist, because British business houses provide much employment to Ceylonese in subordinate positions and Indians do not. The purchase of lands, large and small, by Indian financiers is another source of resentment, although it must be recognized that the improvidence of the Ceylonese landed proprietor and peasant is the ultimate cause of it.

The validity on moral grounds of these grievances of the Ceylonese is difficult to assess but the fact remains that a people who are easygoing and long accustomed to a certain standard of living are apprehensive that they will be submerged by unrestricted competition of Indian capital, Indian trade and Indian labour.

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So much for the economic and psychological causes. What are the political repercussions? It must not be assumed by the reader that the Ceylonese are antagonistic to Indians. They would indeed wish them to be more Ceylonese than Indian. But if there are many Indians in Ceylon who regarded Ceylon as a temporary home—as unquestionably there are, and in large numbers—to what extent are they to be allowed to influence the political and economic future of the Island?

Politically Ceylon's 'Indian problem' began with the grant of manhood suffrage by the Donoughmore Constitution. The question arose whether those Indian labourers who did not have an abiding interest in the Island, who regarded India as their permanent home and who comprised a more or less floating population, should possess the vote. The then Governor of Ceylon wrote in a dispatch to the Secretary of State: 'In the interests of our future good relations with the Government and people of India, it seems to me of the highest importance that this question should be faced and, if possible, settled before it becomes acute.' He suggested a formula, subsequently accepted by the Secretary of State, to provide what he thought was a convenient means of proving a Ceylon domicile. One of the grievances of the Ceylon politicians is that the condition laid down by the Order in Council for proving domicile and 'permanent interest' has not been observed strictly in the registration of Indian immigrants as voters, and that large numbers of names of unqualified persons have been admitted to the register.

Indians on their side have protested against restrictions on their full citizen rights. The Village Committees Ordinance of 1923 excluded Indian estate labourers from its scope

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because, as Sir Henry Gollan, then Attorney-General, said, 'It will look as if there was manifest danger of these village committees and councils becoming rather Indian village councils than Ceylon village councils.' The new Ordinance enacted a few years ago excluded both Indian and Sinhalese labourers on the ground that the estate population did not have anything in common with the life of the village.

Pressed to do something by public opinion in India, which is keenly responsive to the grievances of Indians overseas, the Indian Government now imposed checks on the flow of labour from India to Ceylon and there was a definite deterioration in Indo-Ceylon relations. Increase of unemployment among Ceylonese labourers aggravated the situation and although there was no public demand in Ceylon for any interference with recruitment of immigrant labour for the tea and rubber estates, there was a movement directed towards a reduction of Indian labour employed on public works. An attempt to repatriate, with adequate compensation, a small number of such labourers had important repercussions in India and, in July 1939, Pandit Jawaharlal Nehru was sent by the Indian National Congress to investigate the situation in Ceylon. He helped to create an atmosphere of good will and sowed the seeds of an ultimate settlement.

On a request by the Governor of Ceylon, the Government of India agreed to an 'exploratory' conference to secure a satisfactory basis for formal negotiations on all problems of common interest which required adjustment. The conference was held in New Delhi in November 1940, but it concluded without anything substantial having been achieved. In a statement issued by the Government of India the sub-

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stance of the Ceylon delegation's proposals was summarized as follows:

- (1) Indians in Ceylon in the third generation, as also Indians in the second generation whose parents had a domicile of choice, would have a domicile of origin and be treated as Ceylonese in all respects.
- (2) Indians in Ceylon with a domicile of choice would be entitled to the State franchise but all other rights over the whole field of employment would be subject to such restrictions as the Ceylon Government might find it necessary to impose.
- (3) Indians in Ceylon with no domicile of origin or of choice, that is, with less than five years' residence on a date to be specified, would be entitled to earn their living but would have no citizenship rights and could not at any time acquire them.

The Indian delegation's counter-proposals were summarized as follows:

- (1) That full citizenship rights should be conferred on all Indians who could furnish proof (a) of five years' residence in Ceylon and (b) of a permanent interest in the Island, both tests to be satisfied by some set of easily ascertainable facts.
- (2) That persons who did not complete five years' residence on the prescribed date would, on fulfilment of this requirement and also of the tests that might be laid down of a permanent interest in Ceylon, acquire domicile of choice and be on an equal footing with those in category (1) above.

The Ceylon Ministers, after the failure of the New Delhi conference, feared that unrestricted immigration would be resumed and promptly initiated legislation for controlling immigration. The Governor in a message to the State Council immediately reminded it of certain 'undertakings'

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given by the Ceylon Government to the Government of India, on immigration and cognate matters, which undertakings, the Governor said, could not be set aside by unilateral action.

Once more, in August 1941, the method of conference was tried, this time with more fruitful results. At the invitation of the Ceylon Government, the Government of India agreed to resume the informal conversations which had ended inconclusively at New Delhi. The delegation which came to Ceylon was again led by Sir Girja Shankar Bajpai, who was assisted by two unofficial colleagues, Sir Mirza Ismail, the former Dewan of Mysore and Mr T. R. Venkatarama Sastri, former Advocate-General of Madras. Agreed conclusions were reached after a fortnight's deliberations. They represented a middle way between the two divergent policies. The effect of the two Governments accepting the Agreement will be that those Indians who satisfy a prescribed test for proving a permanent interest in Ceylon will not be treated differently from members of the indigenous population. The question of domicile is to be determined according to the principles of English law. The Agreement will also pave the way for trade negotiations and enable the Ceylon Government to secure assent to the Immigration Bill, amended in accordance with the Joint Report. Future relations between the two countries will also be governed by the Agreement. Considerable opposition to the terms of the Agreement manifested itself among certain sections of public opinion both in India and Ceylon. The intensification of the war in Asia has for the present left the whole question in abeyance, and Sir G. S. Bajpai, who handled the Indian side of the case from the beginning, is now India's Minister at Washington.

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The Future

Any political developments in the future must be conditioned by two facts, namely, Ceylon's strategic position and her proximity to and cultural and economic ties with India. No one in Ceylon has asked for independence, and even those who demand Dominion Status hardly know what it implies in the case of a small island like Ceylon. It is conceivable that Ceylon will continue to be a separate entity when India enjoys Dominion Status. Imperial interests as well as local sentiment may favour such a course. In her insular position Ceylon is brought into daily contact with only certain isolated features of Indian life, mainly, cheap labour and the competence and shrewdness of business men and small traders. A predominantly agricultural population clinging to their lands are jealously on their guard against slow expropriation resulting from uncontrolled economic causes. During the past century and a half the population of the Island has increased from a million to six million. There are other domestic causes for anxiety. But Ceylon must in the long run look to India in the future, as she has done in the past, for a permanent anchorage. She has no future apart from India. India must, however, solve her own problems and show Ceylon that there is a place for her, consistent with her dignity and independence, in the Union or Federation of Greater India.

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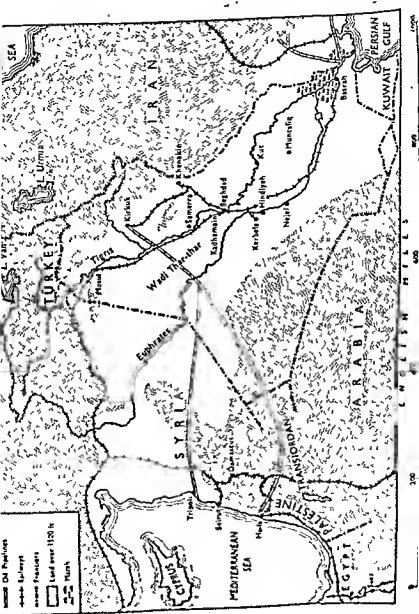
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IRAQ

WILTON LLOYD

**OXFORD PAMPHLETS
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OXFORD PAMPHLETS ON INDIAN AFFAIRS

No. 13

IRAQ

BY

SETON LLOYD



HUMPHREY MILFORD
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IRAQ has an area of 150,000 square miles and a population of 3,000,000. It is now less thickly populated than Sind, with which it was linked in the remote past by the contemporary and related civilizations of the Indus valley and Sumer. The modern State is a child of the First World War, and, in the words of one of its own historians, 'owes its existence largely to the efforts and devotion of its British officials'. Iraq attained independence and membership of the League of Nations in 1932, and declared war upon the Axis in January of this year. Many of its problems—social, agricultural, industrial and educational—are similar to those we face in India, and in this pamphlet the author tells us something of the way in which they are being attacked. The Iraqis are endeavouring to see their future in the light of post-war planning on a world-scale, suggested by Mr Churchill's phrase 'Council of Asia'.

Seton Lloyd, F.S.A., has visited all parts of the country and has had ample opportunities of seeing the working of the new State. From 1929-39 he was engaged in directing archaeological research in various parts of the country, and since 1939 has been British Adviser to the Iraq Government Directorate of Antiquities. He is the author of *Ruined Cities of Iraq* (1942) and *Twin Rivers*, a history of Iraq now in the press.

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Overland Route

IN 326 B.C. a Greek named Nearchus sailed from the Indus to the Euphrates. His voyage, which owed its conception to the genius of Alexander, has been described as 'the first event of general importance to mankind in the history of navigation'. Its significance consisted in the fact that it opened a communication between Europe and the most distant countries of Asia. It was the source and origin of the Portuguese exploration of the Indian Ocean in the fifteenth century, and so the indirect cause of British establishment in India. Furthermore, it proved once and for all the importance of the Persian Gulf in the great world-commercial system of the future.

For over a century Great Britain has been the predominant power in the Persian Gulf—creating maritime facilities, policing its waters, suppressing piracy and slavery, and controlling traffic in arms. In 1903 Lord Lansdowne announced in the House of Lords that 'we should regard the establishment of a naval base or a fortified port on the Persian Gulf by any other Power as a very grave menace to British interests, and that we should certainly resist it with all the means at our disposal'. This policy still holds good, and its justification is obvious. There are two long extensions of the Indian Ocean into the heart of the Middle East—the Red Sea ending at Suez, and the Persian Gulf at Basrah. The railways and rivers of Iraq are the overland extension of the Gulf towards the Mediterranean and Europe.

The position of Mesopotamia, as it was then called, in the scheme of British imperial communications first became clear in the middle of the last century. An agency of the East India Company was established at Basrah, and then came the great Lynch Chesney experiment with steamers on

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fledged and sometimes intractable independent State called Iraq, with a noticeable tendency to be unimpressed, if not irritated, by the two treaty air-bases still maintained by Britain in her territory.

It is the significant nature of this country, and its resources, in relation to the character of its people, which we now propose examining.

The Country

There is little or no historical precedent for the frontiers of the Iraqi State as eventually fixed by the Allied Nations during the years immediately following the First World War. Except for a small portion of the Iranian border, where it follows the line of demarcation between plain and mountain, any geographical expedients there may have been are at first glance equally obscure. The country is in fact composed of at least four distinct regions whose geophysical nature is as diverse as the ethnic character of the people who inhabit them.

In the south there is the alluvial plain, reclaimed by the rivers themselves from the headwaters of the Persian Gulf. In the north are the undulating pasture and ploughlands of the old Turkish *vilayet* of Mosul. These are the main divisions, but included within the modern State there is also a large slice of the Syrian Desert and approximately one-third of mountainous Kurdistan.

The Iraqi national flag embodies two white stars symbolizing the *rafidhain* or twin rivers of Mesopotamia. Each has seven points to represent the fourteen *liwas* or administrative districts into which the country is divided. Yet the *liwas* also have little relation to the divisions created by nature. One may, therefore, infer that these arbitrary subdivisions of the State, as well as its modern frontiers, have a background in political exigency. But since considerations such as these can in no way alter the essential character of

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the land, its several regions must be differentiated on some more authentic basis.

The southern alluvial plain, then, is exactly delimited by the ancient shore-line of the Gulf before the sixth millennium B.C. To the north-east this follows the foothills of the Persian mountains up from the sea, turns south-west across the old river estuaries at Samarra and Hit, and returns parallel to and west of the Euphrates. Enclosed within this boundary is an expanse of entirely flat and stoneless river-born soil, potentially very fertile indeed but requiring artificial irrigation to compensate for climatic shortcomings. Through this area the two rivers have meandered for seven millennia, changing their courses continually, often remaining split into several branches, but latterly always reuniting above the modern city of Basrah to complete their course in a single great channel called the Shatt-al-Arab. Above Basrah also is the marshland of the Muntafiq *litta*, where the drying-out process is still incomplete. Here, in a strangely separate world of shallow-draft boats and reed-buildings, the Marsh-Arabs live on the produce of their mud-banks and swampy islands. Elsewhere, the rivers, being in their delta, flow at a level a few feet higher than the rest of the plain, which is consequently always in danger of flood, particularly in the springtime, when the snow melts on the mountains of Kurdistan and Anatolia.

Depending for its cultivation on artificial irrigation, the entire plain is threaded and crisscrossed with water-channels and the remains of ancient canals, testifying to sixty centuries of human industry and ingenuity. It is also flecked with innumerable mounds, each representing the accumulated remains of some human settlement, now abandoned.

The greater part of northern Iraq may be called upland country. It is undulating, gravel steppe and rich ploughland with some stone. Here the rainfall of an average year is

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sufficient for it to yield a single crop without irrigation, wherever the soil is suitable, so that only gardens and plantations are artificially watered. The country is normally bare, but a wet spring covers it with an ephemeral garment of grass and flowers, which withers in May. Between the two rivers, in the centre, is a wedge of uncultivable gypsum desert known as Al-Jazirah, itself divided by a strange deserted *wadi*, called Thar-thar, which runs due north and south and ends in a salt lake. After the uplands come the high lands of Kurdistan, forming a north-eastern crescent of mountain country with its lower point resting approximately on Khanaqin and its upper on the Tigris at Faish Khabur. Here are stone-built villages shelved into the side of the hills, with tall silver poplars, and terraced cultivation including vineyards and tobacco. Large areas of mountain-side are covered with scrub-oak, or less often conifers, and there is much game below the snow-line in winter.

Lastly, as we have said, included in the frontiers of northern Iraq is a portion of the Syrian Desert, almost equal in area to the remaining half of the State. This is uncultivable and almost waterless, inhabited only by Bedouin tribes with their flocks and camels.

Economic Resources

Contrary to the impression which the land gives to a casual visitor, Iraq is a rich country and potentially richer. Hand-to-mouth living among the peasants, and their methods of barter, make it difficult to assess the exact yield of the principal crops in an average year, but a study of the export figures in peacetime gives a fair impression of Iraq's part in world production. The following are the figures for the principal exports in 1937, a prosperous trading year:

	Tons		Tons
Wheat	... 113,161	Wool	... 7,784
Barley	... 286,877	Hides	... 2,697
Dates	... 191,017		

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In the same year Iraq also exported almost half a million live animals of various sorts, by far the largest number of which were sheep. Combined with more than 4,000,000 tons of oil a year and various other, mainly agricultural, commodities, this gave Iraq an annual export trade worth £5,500,000—a considerable figure for so young and backward a country.

For it must be admitted that Iraq is backward by modern standards of production—backward in the sense that the potential riches of the country could be exploited to give a much greater yield.

With improved agricultural methods, extended irrigation, more capital, and better communications, Iraq would be able to support a population many times its present size. Her needs are common to every Middle Eastern country in the process of modernization, but in Iraq one other important factor has hampered her development, and that is the uncertainty which she suffered during the years before the present war owing to the instability of the grain market. When peace returns, nothing would do more to give her a good start in world markets than a guaranteed price for her grains.

Economically the war has affected Iraq considerably, although rather at second-hand. To begin with it has held up the construction of factories, such as cement and sugar, and certain major irrigation schemes, such as the proposed Geli Bekhme dam on the Greater Zab. But more important has been the effect of the presence of Allied armies in Iraq.

Through these armies employment has been given to many thousands of labourers: public works have been constructed and a general stimulus given to industry of all kinds. All this has not been an unmixed blessing. The note issue has risen from a pre-war figure of I.D. 4,500,000¹ to about I.D. 25,000,000 (March, 1943), and this enormous increase in

¹ The Iraqi Dinar is worth £1 sterling, or Rs. 13-5-4.

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the amount of money circulating in the country, combined with an inevitable end to the import of all except essential goods, has caused an economic condition which bears a close resemblance to inflation. It is not true inflation, however, inasmuch as the Government's credit is sound, and the Dinar is still tied to Sterling. In fact, the main result so far of the war has been to build up a considerable credit in Iraq, which could be used when the war is over for financing many of the public works schemes of which Iraq has long stood in need. For the first time in her brief history Iraq has become a creditor nation. This is, or should be, her hope for after the war.

Meanwhile, as long as the war lasts it will be difficult for Iraq to put this new accumulation of wealth to the best use. What is needed here, as in every other country under war conditions, is economic control, and voluntary or compulsory saving. Both these ideas are new to the country, although the hardships caused by their absence have fostered a popular demand for them to be introduced. Until Iraq's entry into the war (January, 1943) the tendency had been for prices to rise with alarming rapidity, and for those who could to speculate in land and commodities, taking full advantage of a rising market. But with Iraq's adherence to the United Nations' declaration, and her own declaration of war against the Axis, the Iraqi people have come increasingly to realize what is implied by her undertaking to employ 'full resources—military or economic' against the enemy. In Iraq's case, full economic co-operation is of pre-eminent importance. As we have seen, Iraq before the war was a great exporter of cereals, a commodity of which there is a shortage in all the neighbouring countries. It has become the declared policy of the present Prime Minister that Iraq 'should return as far as possible to her pre-war status as a granary, and, if he succeeds, it will be difficult to exaggerate the importance of this contribution to Allied war effort.

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Oil

One of the more important effects on Iraq of the Allied victory in the First World War was the development of the country's oil resources. Before that war competition between the powers to secure oil rights in Mesopotamia had probably delayed the development of the deposits, but one of the prizes of the Allied victory was certainly a concession granted in 1925 to what is now the Iraq Petroleum Company. This Company is an international consortium representative of the main Allied oil interests. The concession gave to the Company the right to select after examination certain areas for the Company's exclusive exploitation and in return required the Company to build a pipeline to the Mediterranean, to pay royalties and to market petroleum products in Iraq at prices slightly below world prices. After the selection of the Company's exclusive areas the Iraq Government had the right to offer non-selected areas to other concessionaires. The policy has been successful, in that the original Company discovered oil in more than adequate quantities (1927), built a pipeline, with two branches and a total capacity of four million tons, to the Mediterranean ports of Haifa and Tripoli, and carried out its obligations of making cheap oil available to Iraq itself. Other companies have taken over certain areas not selected by the original Company and in general the principles of concessionary development are in full swing. Iraq exports 4,000,000 tons of oil a year through the Mediterranean pipeline and consumes a further 200,000 tons at specially cheap rates within the country itself—a large fraction of this being on oil used for irrigation.

The first big step in the development of Iraq's oil has been completed. The second phase will undoubtedly begin after the war and it is likely to be considerably more complex. It has been established beyond all doubt that

both Iraq and Iran possess oil deposits with a productive capacity, even on a conservative basis, enormously in excess of the present output. In addition, the existence of oil deposits has been proved at various points on the Persian Gulf. Iraq is, in fact, the centre of an oil-bearing zone which has only just started to be tapped. A limited quantity of this oil goes to markets served by sea through the Persian Gulf, and a more limited quantity goes by pipeline to the Mediterranean. The world demand for oil after the war is likely to increase considerably. How much of the extra demand is to be met from Iraqi sources? What balance will be struck in meeting this extra demand by other oil-bearing countries of the Middle East? Will the evident possibility of one oil-supplying country being played off against another lead to some kind of self-protective Middle Eastern oil confederation? Will those Middle Eastern countries not fortunate enough to possess oil deposits demand a share in Middle Eastern oils on the broad bases of planned economy and the Atlantic Charter? These are the main issues affecting Iraq and the Middle East in terms of world oil development. The domestic issue, apart from oil royalties, is also of great importance to Iraq. A beginning has already been made in liberating cheap oil supplies for the country's own consumption. This will undoubtedly be regarded as a beginning only. Iraq expects to see industrial development take place, which inevitably posits cheap fuel, and there can be no doubt the country will apply itself to obtaining even cheaper supplies of fuel on which to base manufacturing industries.

Irrigation and Agriculture

Iraq's greatest national hero should be the man who first thought of digging a ditch to bring water from the river to a distant field. For a country with summer shade temperatures of 110° to 130° F. and no rain for eight months in the

year, the distribution of water to both crops and human beings is its most vital function. In Mesopotamia, the engineering side of irrigation by trench and canal had already been brought to a fine art in Babylonian times, and the ruins of ancient waterways confirm the testimony of ancient writers that Iraq was once one of the great granaries of the world. There is no doubt whatever that up till the thirteenth century A.D. an immensely greater area of the land was under cultivation than at present, and the obsolete irrigation system can still easily be traced. In the first place the Euphrates, as at the present day, then flowed at a slightly higher level than the Tigris. This permitted irrigation from the one, and drainage into the other, so that a succession of almost parallel canals ran diagonally between the two rivers. Other great canals were diverted from the Tigris by a barrage in its prehistoric estuary, to irrigate great tracts of fertile country on either side, and another artificial barrier again split it into two streams in the south.

Today each river has a modern barrage serving a similar purpose—the Tigris at Kut and the Euphrates at Hindiyah—but both are situated low down towards the delta and command a greatly reduced area of cultivation. Irrigation in the immediate vicinity of the rivers has admittedly been improved by substituting modern oil-engine pumps for the primitive 'lift', but there is still a great need for a reservoir on one of the upper tributaries of the Tigris to prevent useless flooding in the spring and to release extra water in the dry season.

Except for the date-gardens on the Shatt-al-Arab and the fruit and vegetable gardens outside the large towns, Iraq's cultivation system is 'extensive', which means that a light amount of work is put into a large area. When a careless regime and inadequate drainage produce salting, the farmer merely transfers his cultivation to new ground. The method in general is uneconomical for this reason. Wheat and barley

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are grown in winter, and such crops as rice, maize, sorghum and sesame in the summer. Cotton could play a large part in the future development of Iraq's agriculture, as American upland types have been found to give a profitable yield, and there are already several ginneries. Generally speaking, annual rather than perennial crops are suited to Iraq's wide climate.

Land Tenure

In the north of the country small-holdings are fairly common, but in the south the proprietorship of cultivation is almost exclusively divided between townsmen, pump-owners and tribal sheikhs.

The system of actual land-tenure is complicated. The Ottoman Government considered that any land not belonging to individual holders was the property of the State. The Turkish reformer, Midhat Pasha, was the first to initiate a definite land policy, which consisted of selling by auction, on easy terms, the tenancy-rights of the State lands to all claimants. At the same time, freehold titles, which he made annually renewable, were allowed to lapse by those who considered themselves authentic owners. The result, when the Turks left and almost all documents of ownership were destroyed, was a state of chaos greatly increased by the prescriptive and customary rights which varied from district to district. The whole affair is only now being elucidated by an efficient Government campaign of land-settlement, profiting from a cadastral survey.

In the case of the State-owned land then, the tenant-proprietors are usually tribal sheikhs. The land is actually farmed by the tribal members—peasant-labourers who receive no specific wages, but get their income by the share system. Here is some fairly up-to-date information about the sheikh's relations with his *fellahin*, and with the Government.¹

¹ Fadhl Jamali, *The New Iraq* (1934).

I. If the land is State-land with the title given to the Sheikh and if the Sheikh himself pays for the seed, the produce is divided into three parts; one-third goes to the Government, one-third to the Sheikh and one-third to the tribal member.

II. If the Sheikh does not pay for the seed, his share is one-sixth and the remainder belongs to the tribesman after taking away the Government duty of one-third.

III. If the land title is in the name of the tribe as a whole, but registered in the Sheikh's name, the Sheikh gets ten per cent and the remainder belongs to the former, after paying the duty to the Government.

IV. If the land is owned by the Sheikh, the Government gets one-fifth of the produce and the remainder is divided equally between the landowner and the tribal member.

In addition to having to place a deposit in cash with the sheikh, the *fellah* must make minor contributions in kind to the sheikh's coffee-man, his water-distributor, his *mullah* and his guest-house. So it is not difficult to see who, in the end, gets the worst of the deal, even if the sheikh is honest. In fact, the *fellahin*, whose family incomes often do not exceed ten pounds a year, treat the obvious disparity of wealth with the unquestioning resignation which is bred of long feudal tradition, but the system does result in their contributing the bare minimum of labour required of them. Any plan for extended cultivation in the south of Iraq would necessitate giving the peasants the stimulus of a fair interest in the results of their work, as well as other improved amenities.

The People and their History

More than two of Iraq's three millions of population are said to be Moslem Arabs, though this can only be a formal classification for statistical convenience. In order to be in any sense related to scientific truth, one's view of the Iraqi people must, in fact, be against a background of their long history.

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Traces of the first settlers in Iraq, in the sixth millennium B.C., are naturally found in the northern uplands only, since the head of the Persian Gulf had at that time not yet receded. When the southern plain did eventually begin to dry out, new settlers came in three waves—the first and third from the Iranian highlands to the east, the second from northern Anatolia. By about 3000 B.C., when written history begins, these indeterminate immigrants had fused themselves into a homogeneous national entity with clearly defined Japhetite, or at least non-Semitic, character. They called themselves Sumerians, and by the middle of the third millennium had laid the foundations of the world-civilization. The next comers were Semitic Akkadians, whose approach was probably through the western desert from Syria. These superimposed themselves on the Sumerians, absorbing and improving their culture (which now had a counterpart in the Indus valley). Out of the Sumero-Akkadian combination grew largely Semitic Babylon, modified in the second millennium by the influx, first of Ido-Iranian Kassites and then of Armenoid Hittites and Hurrians. Finally, flowering from a small upland city-state, Semitic Assyria dominated the whole riverland, and for a time loosely controlled most of the Middle East. When Nineveh fell in the seventh century B.C. and Babylon for the last time in the sixth, the independence of Mesopotamian states was temporarily ended, and a long period of foreign domination began.

During the next thousand years the power of three various Persian dynasties extended westwards over Iraq. Between the first and the second of these was a strange interlude, when the young Macedonian with his Greek army passed magnificently across the land, destroying the last Achaemenian king; and returned later, fresh from the conquest of North India, adding his quota of Europeans and conscripts from

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Central Asia to the already confused heredity of Mesopotamia. After him Parthians and Sassanians ruled Seleucia-Ctesiphon, warring with Imperial Rome. Only the Syrian Desert separated East and West.

All this was changed in the seventh century by an unexpected event. The human reservoir of Arabia once more overflowed. This time a great Arab leader gave impetus to the initial movement, and a religious ideology cohesion to its outcome. North-west and north-east the armies of Islam marched to their first conquests, and the waning might of Byzantium and Persia crumbled before them. Apt and ready to assimilate such knowledge as they had lacked in their native desert, the Arabs settled in Syria, to breathe on the dying embers of classical learning. A line of Omayyad Caliphs made Damascus the centre of the fast expanding Moslem world. Over Iraq another wave passed into Persia and beyond. They returned wearing a new garment, the mantle of the Sassanians, and prepared to dispute the authority of Damascus. So the torch passed eastwards to the Abbasids, and Baghdad became the capital city of an empire which stretched from Spain to China. Furthermore, intent upon supplementing their own meagre heritage of wisdom, in Baghdad also the Arabs intensified their industry and research, knitting up the threads of human accomplishment in the past, and adapting them to a culture of their own, destined to play no mean part in the evolution of the present-day civilization. For five hundred years all this activity had its focus almost by chance in Mesopotamia, and it was during this period that the complicated breed of Mesopotamian people received its first admixture of racially pure Arab blood. From this time onwards Iraq is historically considered not only a Moslem but an Arab country.

The thirteenth century was a turning-point in the fortunes of Arab Iraq. Mongol invasions from Central Asia put an

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ced to the Abbasid dynasty and the Arab Empire alike, and the work of despoiling the country was completed by Turcomans and Tartars. Iraq never recovered. Six hundred years of poverty, maladministration and general insecurity brought the Iraqi people into the twentieth century as backward and intransigent as they left the thirteenth. A perpetual bone of contention between Turkish Sultans and Persian Shahs, each exploiting the internal religious rift between Shia and Sunni Moslems, the country had changed hands many times and lost much of its self-respect in the process. It now seemed doomed indefinitely to remain a shabby and neglected outpost of the Ottoman Empire.

Arabs

Many of the vicissitudes through which their country has at various times passed are reflected in one or other section of the modern Iraqi people. The tribal system, to which almost the whole population outside the cities is subject, may be considered a heritage from Arabia. Apart from the Marsh tribes in the south, tending their buffaloes from caoos, there are Bedouin tribes, nomadic pastors of camels, sheep and horses; there are cultivator tribes near the rivers, and semi-settled, semi-nomadic tribes, whose behaviour varies with the climate. Every stage in tribal development from the desert nomad to the riverain cultivator can be observed, and it is interesting to note how few of his tribal characteristics the *fellah* has lost in his transition from the desert to the town. In the country the administration of justice is largely on the lines of tribal customs, and there are Government regulations for disposing of tribal criminal and civil disputes on this basis.

It would be a fallacy, however, to imagine that all the cultivators of southern Iraq are provided by the gradual settlement of nomadic Arabs. Any anthropologist who has

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Antioch, and the missionary work of St Thaddaeus had spread its influence throughout Mesopotamia. A famous heresy split the Antioch church in two, and Sassanian persecution scattered the Nestorians eastwards. Gibbon refers to the remarkable role played by the Mosul church in evangelizing India, and Nestorian missionizing reached its climax in the time of the semi-fabulous Prester John, whose temporal power carried Christianity eastwards to China, while his fame spread to the courts of Europe. Religious apathy characterized the Mongols' treatment of Christians, but the Tartars were less tolerant. Repeated massacres eventually confined the Nestorians once more to a group of villages south of Van, and the Chaldeans, who had now separated themselves, to the Mosul district. In 1917 the fortunes of war brought the Nestorian Assyrians back to Iraq. Today Christians hold many responsible positions in the Iraq Government and there has been one Christian Cabinet Minister.

Kurds

The Kurds have been variously identified, by those seeking their forebears in the three millennia before Christ, with the Gutians, Kassites and Medes. Historically, they are for the first time easily recognizable in the *Karduchi* whom Xenophon found already established in the Hakkari district of Anti-Taurus. By the Middle Ages they had pushed a good deal further west into northern Syria, and it seems likely that this movement dates from the time of the great Kurdish hero Saladin who united the western tribes, making the Aleppo citadel their central fortress. Today there are approximately a million and a half Kurds fairly equally divided between Iraq, Iran and Turkey. In Iraq their domain corresponds to the highland crescent referred to earlier.

They are plainly Indo-Iranian by extraction, or what is sometimes loosely called Aryan. Their religion is Islam,

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but they have a language of their own with rich grammatical forms and a distinct syntax. Philologists say that in Kurdish, pure Aryan origins are less obscured by Arabic importations than in Persian. Kurdish families are characterized by the strongest possible feudal sense and a rigorous code of honour. Their women are allowed considerable freedom. They go unveiled, and often attain positions of respect and authority in later life.

Jews

The majority of Iraqi Jews, who slightly exceed the Christians in number, live in Baghdad. It will be remembered that the patriarch Abraham, whose first home was at *Ur-of-the-Chaldees*, later migrated to Canaan; so the ancestors of the present Hebrew Iraqis must have arrived at a later date—probably as war-prisoners in the wake of the victorious armies of Tiglath-pileser, Shalmaneser, Sargon and Nebuchadnezzar. The tears of their early captivity were soon forgotten in their growing appreciation of this new *Land of Promise*, and the Greek writers found them prospering in large communities on the Euphrates, including their university cities of Sura and Pumbeditha. In Sassanian times they even attained some measure of administrative independence, while the Abbasid Caliphs were not above benefiting from their commercial and economic acumen. They have since been assimilated into the life of the country, until today a foreigner will find them barely distinguishable from Iraqi townsmen of different extraction. They had seldom been discriminated against, until the development of political Zionism.

In Baghdad there are Jewish schools, hospitals and charitable institutions, financed by the community, and conforming to Government regulations. The community has a president and two councils whose appointment is confirmed by royal *irada*.

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Others

About thirty thousand Yezidis and an even smaller number of Turcomans, Sabaeans, Shebeks and Lurs complete the picture. The Yezidis in the hills north of Mosul have an obscure religious formula centred around the propitiation of the principle of evil. They are consequently often erroneously called 'devil-worshippers'. The Turcomans are a remnant of a fourteenth-century invasion. They were retained by the early Ottoman rulers in a line of settlements calculated to protect their own communications with Turkey from the less reliable Arabs.

The Mandaean 'baptists' have a more ancient faith, whose origins may perhaps be buried among the ruins of Harran on the Turko-Syrian frontier. They now ply their trade as silversmiths at Baghdad and Amarah.

Near Mosul half-a-dozen villages of Shebeks speak a language of their own; the Lurs are mainly confined to a guild of porters used in the town for moving heavy loads.

The Birth of the State

Any conscientious attempt to understand the *risorgimento* of Modern Iraq takes one back at least to the first decade of the present century. In these distant *vilayets* of Turkish Arabia, Ottoman rule was at that time beginning to show a marked deterioration, and wars in Europe were weakening the Central Government in Istanbul. Amongst the Arabs these facts, combined with resentment at the 'Ottomanism' of the Young Turks, had already led to a recrudescence of racial aspiration, and the comparatively new concept of 'nationalism' claimed its partisans. Damascus and Beirut were the first centres of an organized Arab Nationalist Movement, but by the outbreak of the First World War the secret society called Al-Ahd had extended its activities to Baghdad.

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The impact of Western civilization and Western ideas on these inner regions of the Middle East had been a gradual process. But the implications of certain events were by no means lost on the Arabs. Great Britain's interest in the port of Basrah and the Persian Gulf generally, in relation to the newly discovered Persian oil and the overland route to India, had plainly anticipated, if not forestalled, the Berlin-to-Baghdad railway. Strategically as well as economically Turkish Arabia was acquiring a new significance, and its now politically conscious people had visions of the future in a shape which was by no means reassuring.

When the great upheaval, in which their patrimony was to be contended for by the great Western powers, did materialize, they were, as a result, to some extent prepared for it.

Great Britain's Mesopotamian campaign, which began in Basrah in the winter of 1914, and ended in Mosul simultaneously with the signing of the Mudros Armistice, was a straightforward military conquest. As it turned out, so far from doing anything to assist the British-Indian army, the Arabs of Iraq gave more than token-support to the Turks. Yet Allenby's campaign in the west had proved to be a different story. Here a revolt of Hejazi Arabs against the Turks, encouraged and financed by Britain, religiously sanctioned by the Hashimite family, and led by the young educated Arab Nationalists of Al-Ahd and Al-Fatat, many of them Iraqis, had provided a mobile force protecting the right flank of the British advance, and contributed more than a little to an eventual British triumph. Furthermore, it had been instigated on the basis of a fairly wholesale pledge of Arab emancipation in the case of the campaign succeeding. A second and almost simultaneous agreement envisaged a different situation. It provided for the contingency of Syria being wrested from the Turks without Arab assistance, as in Mesopotamia, and was mainly concerned

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with a provisional division of the spoils between Great Britain and France.

This, in the briefest possible form, is the background of the post-war settlement in the Middle East. What transpired in Mesopotamia is probably fairly familiar, but none the less remarkable. A preliminary period of military occupation, with a semi-colonial administration, conscientious and efficient in the extreme, but making few concessions to the peculiar political precosity of the people, resulted in a serious check. The insurrection of 1921 (though largely instigated by tribal elements who had long been a thorn in the side of the Turks and have since risen against the independent government), in addition to costing the British Treasury forty million pounds, was undoubtedly symptomatic.

The Anglo-French declaration directly after the Armistice had renewed the promise of those powers to 'encourage and assist the establishment of indigenous governments' in the countries 'liberated from Turkish oppression', and Woodrow Wilson, in his Twelfth Point, had spoken of 'an absolutely unmolested opportunity of autonomous development'. Meanwhile the ejection by the French of Feisal's first autonomous Arab Government from Damascus had resulted in a transference of nationalist hopes to Iraq. Here they had not only become determined and vocal, but had now expressed themselves in a costly piece of violence.

Under these circumstances the League of Nations' mandatory scheme of tutelage for backward nations had much to recommend it. It was an answer to Iraqi nationalism, and at the same time a sop to the idealism of President Wilson, to General Smuts and to the progressive trend of world-thought in general. Moreover it soon became clear that a Feisal lost to Syria was a Feisal gained to Iraq, and under his able guidance the ultimate emancipation of the country-

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stood some chance of becoming an accomplished fact. In some of Feisal's entourage, however, an initial disinclination to admit the necessity of a tutelary period had been aggravated by their experience in Damascus, and their suspicion and distrust of their 'tutors' was easily reflected in the general run of Iraqis, conditioned by centuries of oppression. *The years of the mandate were not, therefore, entirely plain sailing.* Yet by 1932, when the country, as a sequel to a succession of treaties, passed from mandate to independence, there was little doubt that from a purely practical and mechanical point of view, the experiment had so far succeeded. Antonius¹, for instance, whose chronicle of the nationalist movement no one would suspect of Western bias, refers to it as 'one of the most remarkable instances of post-war reconstruction', and generously adds that 'the Modern State of Iraq owes its existence largely to the efforts and devotion of its British officials'. There is in any case no doubt that Great Britain, having once committed herself to this ostensibly idealistic innovation, was actuated by a genuine desire to maintain a clear conscience. In the end it was only her haste in expediting the conclusion of the experiment which drew world criticism. She was accused by some of allowing the clamour of importunate Arab extremists to dull the voice of that same conscience, of ignoring the rights and interests of the less vocal sections of the Iraqi people, and, in a word, of expecting the little state to run before it could walk. This criticism has been repeated at intervals since, and occasionally seemed justified by subsequent events.

In any case, the final treaty between Great Britain and Iraq, signed in 1930 as a basis of Iraq's admission to the League of Nations, was an unequivocal assurance of the

¹ George Antonius, *Arab Awakening*.

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State's genuine independence. Her future relations with Britain were defined as a 'close alliance' and the special concessions required of her were reasonable. In case of war against one party to the treaty, the other would 'come to his aid in the capacity of an ally'. Iraq's aid to Britain in that event would consist in 'furnishing to His Britannic Majesty on Iraq territory all facilities and assistance in his power, including the use of railways, rivers, ports, aerodromes and means of communication'. Precautionary measures for mutual defence being 'in the common interest of both parties', Great Britain was to be allowed to maintain air-bases at Basrah and west of the Euphrates. Identity in training between the British and Iraqi armies was to be assured by the maintenance in Iraq of a British military mission. For the rest, His Britannic Majesty's representative was to have precedence over the representatives of other powers at the Iraqi court, and Iraq would normally engage British subjects for posts requiring foreign officials.

The Constitution of the new independent Iraq was as follows. The legislative power was vested in Parliament with the King. Parliament consisted of the Senate and the Chamber of Deputies. The Senate was composed of twenty members appointed by the King from among those who, by their acts, had gained the confidence and trust of the people, and those who had an honourable past in the service of the Government and of the country. The Chamber of Deputies was elected on the basis of one deputy to every 20,000 male Iraqi subjects. Every bill must be submitted to each assembly in turn and then approved by the King.

There were eight Ministers, who met under the presidency of the Prime Minister. The Prime Minister was chosen by the King. The other Ministers were appointed by the King on the recommendation of the Prime Minister.

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Half-a-dozen British advisers were retained in various ministries and departments.

Initial¹

Looking back over the first thirteen years of Iraq's independence, one aspect of the experiment is brought into sharp perspective, perhaps as a result of the ideological stress laid by wartime politics on democracy. It becomes clear that constitutional democracy on the pattern of Britain and America could not reasonably be expected to spring fully-fledged from the efforts of a single generation, whose heritage was oriental feudalism. A King, a council of ministers, two houses of parliament, party government, free elections, freedom of speech and of the press—in fact 'the government of the people by the people'—have in peaceful times become a commonplace to the Western world. But in a country where a small proportion of the population are literate, and an even smaller percentage politically conscious or responsible, some of these component attributes of mature democracy must at first naturally be modified if not dispensed with altogether. This at times has caused a recrudescence of feudalism, together with administrative weaknesses such as nepotism and patronage, which in the East are inseparable from it. Dangers of this sort were inherent in the original plan, and time will show whether they will eliminate themselves naturally through the medium of extended education, or require a major operation to deal with them.

Another danger which the independent Government had to fear, and which had been intelligently foreseen by King Feisal, was disunity in the country itself. The Kurds in their particularly inaccessible mountain country took time to be reconciled to Arab government, while any lenience in

¹ Independence.

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dealing with *Kurdi Jumhuriy¹* aspirations would have had the added disadvantage of alienating two neighbouring governments, both contending with the same difficulty. The Shiah of the middle Euphrates nursed religious and political jealousies, resulting from their inadequate representation in an administration headed by a Sunni royal family. Finally, the newly conscripted Iraq Army proved its ability to brush aside, with impunity, civil control, and to take the law into its own hands. By that time there was no longer a Feisal on the throne, with his remarkable faculty for manipulating and controlling these conflicting elements.

It is also interesting to see that in a complex way Iraq's constitutional immaturity contributed towards the events which led up to the affair of May, 1941. When the full blast of German propaganda was turned upon the Arab countries in the last years of peace, the ground in Iraq was already fortuitously prepared for it. The old congenital distrust and suspicion combined with reactionary xenophobia had sustained the myth of British interference, and a new generation of Western-educated youths, impatient of their country's continued backwardness, welcomed the German fairy-tale of avaricious and unscrupulous imperialists, deliberately conniving at this state of affairs for their own nefarious advantage. Next, the nationalist theme was fully exploited. Pledges of twenty-five years ago were contrasted with a fictitious state of servitude throughout Arab States, and with their present disunity, again artificially fostered by the Machiavellian imperialists. In Iraq particularly, the case for 'servitude and oppression' being a hard one to make, Iraqi eyes were directed towards the unfortunate conflict in Palestine, from which streams of charlatans and adventurers posing as political refugees now began to arrive adding fuel to the fire. Many of them were given positions of

¹ Kurdish Republic.

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responsibility as teachers, and did untold harm, by their many prejudices and few qualifications, to Iraqi youth.

It will, therefore, be seen that for an ingenious and well-subsidized propaganda organism, the political seduction of a certain section of Iraq presented few difficulties, especially as Great Britain appeared to view the whole process with the semi-incredulous apathy at that time in evidence in many other quarters. In any case it eventually bore fruit in the anti-constitutional and anti-British rising in 1941, when Rashid Ali endeavoured unsuccessfully to link the fortunes of his country with those of the Axis powers.

Since that time there have been great changes in Iraq, and a most serious attempt has been made by British and Iraqis alike to eradicate not only the effects but the causes of the estrangement. They have culminated in 1943 in Nuri Pasha as-Said's decision to bring Iraq into the ranks of the United Nations, and there is little doubt left in the country as to the policy required by its permanent interests. The legitimate claims of the Arab nationalists have again been seriously considered and in some measure answered. In Palestine repeated earnestness of Great Britain's post-war intentions, and in Syria a first symbol of independence, have perhaps both been overshadowed in importance by a general statement of the British attitude towards Arab unity. The Foreign Secretary has, in fact, made declaration of full British support 'to any scheme which commands general approval' for strengthening the political, cultural and economic ties between the Arab countries. He also laid his finger upon one weakness of nationalist complaints, by implying that the initiative in this matter must lie with the Arab Governments themselves.

Actually in Iraq today a new and realist generation is perhaps a shade less concerned with the theme of political unity than are their fathers and uncles, who joined Al-Ahd

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or fought in the Arab Revolt. On this subject they mostly confine themselves to a general conviction that 'in some predictable future the historical and cultural identity of the Arab Nation will find adequate political expression'.¹ Their minds, in this way, being less obsessed with unfulfilled nationalist ambitions, adapt themselves more readily to economic and social reflection. The result is a new and most significant wish to be associated with the economic progress envisaged in the Atlantic Charter, a healthy interest in local problems such as the poverty and illiteracy of the Arab masses, the unscientific exploitation of the land and backwardness of industrial development, and an appreciation of the necessity for outside help in solving them. Finally, in March, 1943, they are endeavouring to see their future in the light of post-war planning on a world-scale, suggested by Mr Churchill's phrase 'Council of Asia'.

Social Problems

There has been a great tendency for orientalists to generalize about the character of the Iraqi Arab, and the mutually contradictory opinions which have resulted suggest that a categorical appraisal is something which it is really well to avoid. One authority for instance suggests that religious fatalism, and the effects of an enervating climate, have produced a radically unprogressive attitude of mind, devoid of all instinct for citizenship or social integrity. Another speaks of the Iraqi countryman's amazing quickness at adapting himself to new conditions and profiting by unexpected opportunities. Almost all seem to have found amongst them endearing qualities which easily disarm criticism; and it will, therefore, be more useful here to avoid the danger of prejudiced characterization of the people and to concentrate on an objective statement of some of their problems.

¹ *The Times* (London), 10 Feb. 1943.

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Almost every social problem which presents itself in Iraq today would be soluble by an improvement and extension of national education in one or other of its branches. Education alone can teach the people the necessity as well as the means of changing their way of life, and adapting it to a changing world. We have already spoken of the impact of Western civilization on the East in the present generation, but we have not particularized the cultural predicament which it produced in Iraq. Emerging from her long slumber under the Turks, Iraq found herself faced with an overwhelming need for material and social reconstruction. Her material industries were non-existent; the small proportion of her land which was not lying fallow was wastefully and improvidently cultivated; her national health was undermined with malaria, bilharzia and trachoma, and her infant mortality alarming. In contrast to this she soon found her markets flooded with Western goods, Western inventions altering the whole tempo of national life, and Western ideas upsetting traditional ethics and morality.

The drastic treatment which this situation called for was hampered and delayed by internal controversy over a leading issue. A still-conservative, older generation saw the youth of the country swept by a wave of Westernism (automobiles, gramophones, radios, cinemas and cabarets, went with Western clothes and Western manners), and a reactionary axiom that it was better to be a chemically pure oriental than an ersatz European only antagonized them, and rendered them unreceptive to the wise counsel which could have taught them judgement and discrimination in the process of adaptation. As it turned out, political nationalism was another contributory cause of the adolescent State's failure to concentrate on social planning. The impatient clamour for national emancipation absorbed the attention of her politicians and exhausted their time and energy.

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Though much has been done in twenty years, in spite of ministerial vicissitudes, to put the country on her feet generally, and to face industrial problems, one finds that up to the outbreak of the present war there had still been no comprehensive survey of the country's internal needs with a view to a fixed and constructive policy. The difficulty of obtaining any statistical information about social progress incidentally bears witness to this. School education particularly lacked vision, and had already proved itself susceptible to political abuse of a totalitarian character. One weakness consisted in the fact that the system, when it was inaugurated, was aimed at the production of the then badly-needed class of junior government official. This need had long since been filled, and for every small vacancy now there were a dozen applicants; so that the schools had tended to produce a class of semi-educated place-seekers, surplus to the civil service, but no longer fitted or inclined to return to the land. This problem, which still exists, strikes at the roots of the whole purpose of education, about which incidentally there are in the country some surprisingly conflicting theories.

In general the crying need in Iraqi education at present is for decentralization and extension; varied instruction to equip all classes and ages of the people for their peculiar function in a national life conforming to some carefully conceived plan. In this sense a primary and outstanding necessity is the proper study of tribal education, which has up to now been limited and haphazard. Bedouin and semi-nomadic tribes, who are tending to settle and cultivate, find themselves faced with a whole series of incomprehensible and apparently unreasonable disabilities, which if properly explained would enable them to assume their rightful responsibility as democratic people. Without wider education, problems such as land-ownership, distribution of wealth,

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the status of women and public health, are all subjects which they will continue to treat with that apathetic resignation which is the enemy of all human progress. The necessity for eventually extending such tribal education to pure nomads needs no emphasis.

In almost every sphere education must and will be the primary instrument in bringing about the reforms necessary to the fuller social and economic life of the nation. No human community can hold its own in the modern world when precisely half its members are prevented from taking any part in public life. Yet improvement in the status of women is only one need. The full economic development of the nation's natural resources is another; so are a sense of civil responsibility, improved public health and the enrichment of the people's leisure. Education is the first step to the attainment of all these things.

It would be unfair to conclude without some mention of the social accomplishments of the past decade, in offset inevitable shortcomings. The civic amenities of Baghdad and many of the smaller towns greatly impress those who return after some years' absence. From the fringes of the capital, flower-lined boulevards lead to distant suburbs, and children play in well-appointed public gardens. A theatre and attractive town hall enhance the dignity of public events. A school of Fine Arts teaches music, painting and sculpture, while a competent Directorate of Antiquities maintains no less than seven museums and a picture-gallery in Baghdad alone. Much is spent on the restoration and protection of ancient buildings, and, even in wartime, on archaeological research and excavation.

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